

**MINUTES
PLANNING COMMISSION
MAY 2, 2019
LAKEWOOD CITY HALL
7:00 P.M.
AUDITORIUM**

The meeting was called to order at 7:00 p.m.

1. Roll Call

Members Present

Kyle Baker, Vice Chair
Kyle Krewson
Lou McMahon, Chair
Monica Rossiter

Others Present

Katelyn Milius, City Planner, Secretary
Jennifer Swallow, Executive Assistant Law Director
Bryce Sylvester, Director
Mark Papke, City Engineer

A motion was made by Mr. McMahon, seconded by Ms. Rossiter to **EXCUSE** the absence of Matt Sattler. All the members voting yea, the motion passed.

2. Approve the Minutes of the April 4, 2019 meeting

A motion was made by Mr. McMahon, seconded by Mr. Baker to **APPROVE** the April 4, 2019 meeting minutes. All the members voting yea, the motion passed.

3. Opening Remarks

Ms. Milius read the Opening Remarks into record.

Mr. McMahon announced that Docket No. 02-03-19, 13701 and 13901 Detroit Avenue and 1406 Wyandotte Avenue, Detroit and Bunts Market Rate Apartments and Docket No. 03-06-19, 16000 Detroit Avenue and 15801 Detroit Avenue, Market Rate Apartments were deferred until the June 6, 2019 meeting at the request of the applicant. No vote was taken.

OLD BUSINESS

PLANNED DEVELOPMENT

4. **Docket No. 09-28-18
14519 Detroit Avenue
One Lakewood Place**

George Papandreas, Carnegie Management and Development Corp., applicant requests the review and approval of a mixed-use development consisting of approximately 180,000 square feet of commercial space, 200 multifamily units, .5 acres of public space and a structured parking solution providing at least 710 parking spaces, pursuant to section 1156 – planned development. The property is in a C1 – Commercial, Office district. This item was deferred from the April meeting. (Page 3)

Administrative staff ("staff") provided its introduction. Greg Soltis, RDL Architects, and Chris Frisk, Traffic Engineer, Langan Engineering, were present to explain the updated request.

Staff provided an analysis and recapped its recommended items required for final Planning Commission members ("members") approval. The members sought confirmation of the items in conjunction with the evening's proposal revisions. Location of the public parking spaces in parking garage was on the first and second floors. The Curtis Block Building height would be presented at the Architectural Board of

Review (“ABR”) meeting. Hours of public use of the plaza would be determined as part of the Plaza’s Operations and Maintenance Plan. Public comment was taken.

- Requested a traffic study after one year.
- Ensurance for the planting of the appropriate landscaping/screening items along the southern boundary.
- How does the city address issues/changes with design that arise during construction? Chapter 1156 discusses major and minor modifications that would require the applicant to return to the Commission.
- Were there plans to add electric vehicle charging stations? This is being investigated by the Carnegie team.

Mr. McMahon said this was the most thorough, vetted proposal he had seen in his years as a member of the Planning Commission. Other members agreed and commended the staff and public. Other comments from the members were as follows:

- Enlarge the four street parallel parking spaces.
- Add climbing boulders in the plaza.
- Hours of use for plaza could be added as a condition.
- Wanted to add as a condition that all landscaping would be maintained by the owner.
- City staff and developers would establish safety/security parameters.
- Suggested a modified follow-up traffic study after one year.

A motion was made by Mr. Baker, seconded by Mr. McMahon to **APPROVE** with the following condition(s):

- Community Gathering Space
 - *Your approval of specifically the community gathering space is related to the use of the ½ acre of property on the corner of Belle and Detroit as a first class, multi-functional community gathering space available for public use, as well as the greenspace associated with the plan.*
 - Final design of community gathering space is to be approved by ABR and all other approvals
 - Outdoor dining will return in the future as a conditional use request.
 - *Outdoor Dining shall be governed by Chapter 1161 of Lakewood’s Zoning Code. The Planning Commission may exceed the maximum percentage of seats allowable on a case-by-case basis provided the seats are in the outdoor dining areas.*
 - Lot Consolidation will come at a future Planning Commission meeting.
 - Recommend the condition on the final PD approval by the ABR.
 - As part of the O&M Plan negotiations between the developer and the city, landscape and tree maintenance will be included, as well as maintenance of the site’s southern border screening.
 - A traffic analysis is completed one year after substantial completion of the project; scope may be limited to the project area, as approved by city administration.
 - The O&M Plan will include hours of operation for the public plaza space and winter garden.
- All the members voting yea, the motion passed.

PLANNED DEVELOPMENT

5. **Docket No. 02-03-19**
13701 and 13901 Detroit Avenue and 1406 Wyandotte Avenue
Detroit and Bunts Market Rate Apartments

Jerome Solove, Jerome Solove, Development, Inc., applicant requests the review and approval of a planned development consisting of two mid-rise apartment buildings and one parking garage on 2.12 acres, pursuant to section 1156 – planned development. The property is in a C3 - Commercial, General Business district. This item was deferred from the April meeting. (Page 5)

***The applicant has requested a deferral from the May meeting; presentation will be on the June 6, 2019 meeting.**

PLANNED DEVELOPMENT

**6. Docket No. 03-05-19
13900 Lake Avenue
Lake Avenue Homes**

David L. Swindell, WXZ Residential, LLC, applicant requests the review and approval for the construction of five, two-story cluster homes, pursuant to section 1156 – planned development. The property is in a R1M – Single Family, Medium Density district. This item was deferred from the March meeting. (Page 7)

Staff provided its introduction. David L. Swindell, WXZ Residential, LLC, applicant and Paul Glowacki, Dimit Architects were present to explain the modified request.

Staff provided an analysis and recapped its recommended items required for the members. ABR had approved the proposal already. There were no questions or comments from the members at this time. Public comment was taken.

- Exterior maintenance and accessibility of Unit C.
 - ABR provided guidelines; Unit C is fully accessible for maintenance on the north side.
- What about snow and leaf removal?
 - HOA will handle the removal.
- Has the issue of setbacks been resolved, have alternatives been explored to resolve the setbacks?
 - The need for first floor master living is driving the project, therefore creating a larger footprint. A fifth unit is critical from an economic stance.
- Have alternatives been explored for remediation of the site?
 - Cuyahoga County was the first entity contacted for grants. Staff said there is a gas station cleanup grant, its qualifications are very strict, and this site did not qualify.
- Has there been an analysis for adequate ingress/egress from the garages?
 - They are two stop turns.
- Will owner occupancy be required?
 - Typically, there are restrictions for short term rentals.
- Have safety forces access been considered.
 - Yes.
- Question about the front yard setbacks and Arthur Avenue resident's question about a front porch denial.
 - This project did not have to follow the building setback guidelines, as it was being rezoned. The project was replacing a non-conforming land use.
- What about parking for visitors?
 - There will be street parking.
- What about the space between Unit C and the rear wall?
 - It is access space to the patio.
- Explain some of the design elements for the inner court.
- Explain the technical analysis of remediation of the tanks.
 - Very complicated process, been working on it for two years.

The members asked staff if the project has been reviewed by the City's safety forces. Plans had been submitted and will be reviewed by the City's Fire Department prior to issuance of building permits and City Council's vote. What about addresses for the units? Where will the mailboxes be located? The applicant said fire suppression systems could be installed in the homes, if required for safety. The members

suggested to gain an additional five feet by rearranging the patio of Unit C. There were limitations in place that prohibited the rearranging of the patio, but exploration could be conducted. The members said this was a unique site and would not be duplicated within the City. Remediation of the site was critical. The applicant was asked to address environmental and energy efficient design features and central storm water management. The applicant would seek green certification. Another developer could have proposed a denser project. Staff said the west side Unit A and Unit B might be shifted north a couple of feet to provide a deeper setback. The developer said the overhangs and fire code limited the shift.

A motion was made by Mr. McMahon, seconded by Ms. Rossiter to recommend to **APPROVE** with the following findings and condition(s):

FINDINGS

Existing Use

- *Gas station and Auto Mechanic Shop, Existing Non-Conformity*
Proposed use of 5 single-family homes is more-conforming with the district, reduces noise and traffic volumes for the neighborhood

Deviation from setback of adjoining residential uses

Commission shall find that such deviation shall be solely for the purpose of promoting an integrated site plan and would be consistent with the Vision

- *Provide a variety of housing types that meet the needs of the whole community including seniors, low-moderate income families, and special needs households*
First floor masters provide one-floor living that is desired by Lakewood seniors, but few options are currently available.

Other Goals of the Vision

- *Encourage new and infill development which is complementary to the scale and character of surrounding residential uses*
Height and approved design are responsive to neighborhood.
- *Pedestrian friendly site-design*
Reduction of traffic and curb cut widths improves pedestrian safety.

CONDITIONS

- Adjustment of the western building setback boundary of two additional feet back.
- Green certification will be achieved.
- Add landscape screening to west property boundary extending from wall.

All the members voting yea, the motion passed.

CONDITIONAL USE

7. **Docket No. 03-06-19**
16000 Detroit Avenue and 15801 Detroit Avenue
Market Rate Apartments

Jerome Solove, Jerome Solove, Development, Inc., applicant requests the review and approval of a mixed-use development consisting of approximately 150 market rate, three-story apartments and parking on approximately 2.4 acres, located on the north and south sides of Detroit Avenue between Rosewood and Cranford Avenues, pursuant to section 1135 – mixed use overlay. The property is in a C3 – Commercial, General Business district. This item was deferred from the April meeting. (Page 9)

***The applicant has requested a deferral from the May meeting; presentation will be on the June 6, 2019 meeting.**

LOT CONSOLIDATION

9. **Docket No. 05-15-19**
11818 Madison Avenue
GTI Ohio LLC

Robert George, GTI Ohio LLC, applicant requests the review and approval for the lot consolidation of PPN 315-15-020 and 315-15-021, pursuant to section 1155.06 - lot consolidations. The property is in a C3 - Commercial, General Business district. (Page 31)

Steve Barlow, Surveyor, Mannik Smith Group, Inc. representative and Kristina Dahmann, representative for GTI were present to explain the request. An easement in the westerly portion of the rear parking lot existed in the past; not sure if the easement existed still. Discussion between the members and staff ensured. Public comment was taken. Staff had no comments or questions except the plan was still in review by the City Engineer.

A motion as made by Ms. Rossiter, seconded by Mr. Baker to **APPROVE** with the following condition(s):

- The survey plans are approved by the City Engineer.

All the members voting yea, the motion passed.

NEW BUSINESS
CONDITIONAL USE

8. **Docket No. 05-11-19**
17600 Detroit Avenue
The Castlewood Apartments

Tiana Brandt, SureSite Consulting, applicant requests the review and approval for the installation of new antennas, cables, RRHS, and jumpers; all existing clearwire equipment will be removed, pursuant to section 1157.02 – antennas regulations. The property is in a C2 - Commercial, Retail district. (Page 11)

Tiana Brandt, SureSite Consulting, applicant was present to explain the request; the new antennas would be painted to match the building. Staff provided additional details. Public comment was closed. Members asked if the cable pathways would be enclosed, painted, and asked for dimension specifications.


A motion was made by Mr. McMahon, seconded by Mr. Baker to **APPROVE** with the following condition(s):

- Proposed Sprint antennas, mounting hardware and equipment to be painted to match the existing building.


All the members voting yea, the motion passed.

ADJOURN

A motion was made by Mr. Krewson seconded by Mr. McMahon to **ADJOURN** the meeting at 10:19 P.M. All the members voting yea, the motion passed.



Signature



Date

2



Oath

(You need not give an oath if you object. If you object to giving an oath, please notify the hearing officer or secretary before signing below.)

I, the undersigned, hereby solemnly swear that the testimony I give at this proceeding will be the truth, the whole truth and nothing but the truth:

PRINT NAME:

SIGN NAME:

1. GREGORY SJ SOLTIS

Gregory S J Soltis

2. SAWKREWSO

3. Jesse Sheeha

J Sheeha

4. Ben Hattala

Ben Hattala

5. STEPHEN LAMANTIA

Stephen Lamantia

6. PAUL GLOWACK / DIMY PELLISER

Paul Glowack

7. Carol Ann Gregory

Carol Ann Gregory

8. BRN TUHACEK

Brn Tuhacek

9. JUSTIN SMITH

Justin Smith

10. STEPHEN LAMANTIA

Stephen Lamantia

11. Brandy Richmond-Smith

Brandy Richmond-Smith

Prepared by: The City of Lakewood Law Department, 12650 Detroit Ave., Lakewood, Ohio 44107

FOR CITY USE ONLY

Lakewood Administrative Procedure: ABR/BBS Citizens Advisory Civil Svc. Dangerous Dog Income Tax Appeals Loan Approval Nuisance Abatement Appeals Parking Planning Zoning Appeals Other:

Date of Proceeding: Thursday, May 2, 2019



Oath

(You need not give an oath if you object. If you object to giving an oath, please notify the hearing officer or secretary before signing below.)

I, the undersigned, hereby solemnly swear that the testimony I give at this proceeding will be the truth, the whole truth and nothing but the truth:

PRINT NAME:

SIGN NAME:

1. Virginia M. Gibson
2. Steve Bauer
3. Kristina Dahman
4. Morris North
5. J. D.
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____

- Virginia M. Gibson
- [Signature]
- [Signature]
- [Signature]
- _____
- _____
- _____
- _____
- _____
- _____
- _____

Prepared by: The City of Lakewood Law Department, 12650 Detroit Ave., Lakewood, Ohio 44107

FOR CITY USE ONLY

Lakewood Administrative Procedure: ABR/BBS Citizens Advisory Civil Svc. Dangerous Dog Income Tax Appeals Loan Approval Nuisance Abatement Appeals Parking Planning Zoning Appeals Other:

Date of Proceeding: Thursday, May 2, 2019

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Schwarz, Johanna

From: Ben M <bmeasor90@gmail.com>
Sent: Sunday, March 10, 2019 2:18 PM
To: Planning Dept
Subject: Inquiry Regarding Planned Development

Hello,

I'm writing to inquire about a future development.

I received a letter regarding a review and approval of a parking garage and two mid rise apartments on 13701/13901 Detroit Ave and 1406 Bunts Road.

Unfortunately I was not available to make the review meeting in February and would like to know if there is an estimated time as to when construction will begin on these developments?

I'm sorry I don't mean to be over analytical, and I'm not angry or anything (emails never convey tone), but one other thing. This construction would quite literally be right outside my window and I'm just thinking of the integrity of my electronics, keeping windows open in the summer and dust and dirt flying everywhere and whatnot. I may or may not be looking for a new apartment in the area but I guess I was wondering if you could let me know what are the general laws in Lakewood regarding what times construction can take place are? This may help my decision making.

Thank you for your time,

Ben

Schwarz, Johanna

From: Julie Nichols <amyjules@att.net>
Sent: Tuesday, March 19, 2019 1:44 PM
To: Planning Dept
Subject: Parkwood/Bunts/Wyandotte development

Members of Planning:

My home is 1432 Parkwood and is going to be one of the most directly impacted properties. I am concerned and disturbed to see and hear of the minute changes Solove Development is proposing.

I appreciate the proposed movement of the pool and dog park. Those, however, seem to only negligible changes presented in an attempt to appease the residents.

The number of units is only being reduced from 278 to 275. A reduction of 3 units or 3-6 residents will not significantly improve the traffic, safety or parking concerns raised repeatedly by us residents.

Transitioning down to 4 stories closest to the northernmost homes is also negligible as we will still have an 8 story building very close to our homes. Again, a weak attempt to appease us.

I am still extremely concerned that the only entrance to the parking garage is on Parkwood. Our street cannot handle the traffic.

Lastly, in a meeting last night with some of my neighbors, it was again mentioned that Mr. Solove is considering adding retail to the development in order to use a different zoning requirement. This sounds like a thinly veiled attempt. And quite amusing considering at the ARB meeting last month when asked about installing retail there he said it was not feasible. What changed?

If you have not yet done so, I encourage you to drive or walk down our street and envision what Solove Development wants to do to our street. We have offered very specific concerns and to this date, none have been sufficiently addressed.

Again, thank you for your time and consideration.

Julie Nichols
1432 Parkwood Road
216-298-3521

Schwarz, Johanna

From: Rader, Tristan
Sent: Tuesday, March 26, 2019 9:54 AM
To: Patricia Neff; O'Leary, Sam; Tom.bullock@lakewood0h.net; George, Meghan; O'Malley, Daniel; Litten, John; David.anderson@lakewoodoh.ne; Milius, Katelyn; Planning Dept
Subject: Re: Bunts-Parkwood Project

Bob,

Thanks for the message, I'd be happy to stop by. Will you be around this weekend?

Tristan Rader

Councilmember At-Large
City of Lakewood, Ohio
(c) 440-315-2852
@twrader

From: Patricia Neff <bpneff1443@att.net>
Sent: Monday, March 25, 2019 9:01 PM
To: O'Leary, Sam; Tom.bullock@lakewood0h.net; George, Meghan; O'Malley, Daniel; Litten, John; Rader, Tristan; David.anderson@lakewoodoh.ne; Milius, Katelyn; Planning Dept
Subject: Bunts-Parkwood Project

Dear council and committee members,

Having seen the revised Solove plan, I am more disappointed than ever for the following reasons:

- *The pool has been moved to the top of the parking garage. Making that higher than before. Height and proximity to single residences is one of our major concerns.
- *The original location of the pool has been replaced by 2 multi story buildings 10 feet away from the property line to the next resident. Again, proximity.
- *He as reduced a small portion of the main building to 5 stories next to the Parkwood neighbor. That is still only 10 feet from their property and then jumps to 8 stories after 25 feet.
- *He has move the building 56 feet from the Bunts rd. neighbor but still jumps directly to 8 stories. It also puts a drive next to that neighbor for garbage, delivery and maintenance trucks.
- *All the immediate neighbors are open to any of the council and committee members visiting our properties to visualize the impact on them.

Solove has done the minimum possible to maintain his massive apartment count and hope to pacify the committees, council and the Lakewood residents.

These are just the specific ramifications to the direct neighbors. I'm sure you have received multiple communications on general concerns. I will not repeat those in this communication. However, We have seen the design for the Barry Buick property and the 3 story complex for that larger property is another slap in the face to the Bunts, Parkwood, Wyandotte neighborhood.

We all moved to Lakewood for a great suburban lifestyle and Lakewood leaders have consistently protected that lifestyle throughout all the many changes over the years. We are lucky to have a Great balance of local businesses, residences and a small downtown area to make this a fantastic suburb.

This complex will tower over a great residential neighborhood. It will steal light and space from the neighborhood without appropriate transitions. As proposed it will stand out like a huge pimple on the face of our neighborhood. Simply stated, the mass of this complex is not suited for this property. We would love to have a more realistic improvement like the condos farther east on Detroit that add to the charm of our suburb and welcome more long term families.

Please don't let this monstrous development overtake the charming neighborhood we are lucky to call home.

Thank You,

Bob Neff
1443 Bunts

Schwarz, Johanna

From: Salene Sanderson <m_s_sanderson@yahoo.com>
Sent: Monday, April 1, 2019 2:30 PM
To: Planning Dept; Summers, Mike; katelyn.millius@lakewoodoh.net; Bullock, Tom; Rader, Tristan; George, Meghan; O'Leary, Sam; Litten, John; Anderson, David; O'Malley, Daniel
Subject: Detroit development from Bunts to Wyandotte

Good afternoon Lakewood Ohio leaders..

I am writing today to express my concerns regarding the proposal to build an 8 story highrise apartment building on Detroit between Bunts Road and Wyandotte.

Specifically,

1. Will a service driveway be built connecting to Bunts Road allowing cars in and out of the complex?
2. Has there been a traffic study done that would show the impact on local streets?
3. Is this the type of development that Lakewood needs? Has anyone considered building 2 to 3 story condos like those recently built on Detroit?
4. Where will the overflow parking be?
5. Has there been a study of what impact this will have in our infrastructure? Such as the water and sewer systems, and fire, police and ambulance personnel?
6. How will this impact my property values, peace of mind, and property taxes?

I plan to attend the April events regarding this development and hope hat the residents' concerns will be seriously addressed and considered.

Sincerely,

Salene Sanderson
1490 Bunts Road

Schwarz, Johanna

From: Julie Nichols <amyjules@att.net>
Sent: Friday, April 5, 2019 10:02 AM
To: Planning Dept
Subject: Bunts/Parkwood/Wyandotte development

I am a resident on Parkwood. My home is 2 houses from the proposed 8 story building that JSDI is proposing.

Like the rest of us impacted by this proposed development, I have serious concerns about height, overall size and density as well as the parking, traffic and safety impact.

At the planning meeting April 4, Mr. Solove stated he feels "stymied" and stated he will bring back the exact same plan again May 2. I wish I could say I am surprised by his response, however, I am not. I am appalled though. We have continued to express the same concerns that have been expressed by board members. He has refused to hear them as is evident by the lack of changes made to his plan. He spoke with some of my neighbors after the meeting and stated to them he needs to build that high to be able to charge the rents he wants to charge. He also needs to recoup the cost to build a parking garage. I understand he is in business to make money. Is his way to do that best for the city of Lakewood? I don't think so.

I have heard Mr. Solove repeatedly say he likes Lakewood. He likes the money he can make. He does not respect the city, it's residents or the board members that represent those of us that call Lakewood home. He is trying to hold the board hostage. He is trying to make a plan that works in Columbus fit into Lakewood. This is not Columbus. This is Lakewood. We are unique in our architecture and vibe. Please do not let a developer change that.

I heard a resident impacted by Mr. Solove's other development say he is seriously considering selling his home because of a smaller proposed plan. I have heard the same sentiments expressed by my own neighbors. I understand the city will make money from these projects without having to give the developer any financial support. I am imploring you to equally consider us residents that are also contributing to the financial stability of this community with our taxes and by supporting our local businesses.

Thank you for your time and consideration.

Julie Nichols
1432 Parkwood Rd

Schwarz, Johanna

From: Salene Sanderson <m_s_sanderson@yahoo.com>
Sent: Sunday, April 7, 2019 12:08 PM
To: Planning Dept; Milius, Katelyn
Subject: Planned development Detroit and Bunts

Good afternoon City of Lakewood Leaders...

It is my understanding after attending last Thursday's Planning Commission meeting that Mr. Solove stated he will be returning in May with the same plan presented at this meeting.

I am urging you all to vote against this proposal as it stands. It is too large for the area and will negatively affect not only the immediate neighborhoods, but all of Lakewood. I heard not one compelling argument that favored the number of proposed units.

Please listen to your fellow citizens and deny this development.

Regards.

Salene Sanderson
1490 Bunts Road

Schwarz, Johanna

From: Mallika Lavakumar <mallika.lavakumar@gmail.com>
Sent: Sunday, April 7, 2019 8:18 PM
To: Planning Dept
Subject: Re: Park wood Development Project

Dear Planning Commission,

I am a resident of 1532 Parkwood Road. I am writing regarding the 8 story/270 unit development project proposed by Solove at the Parkwood-Detroit intersection.

I have concerns regarding the project. My concerns are:

- 1) That there will be excessive traffic on our residential street.
- 2) Overflow parking from the complex will take over valuable parking spaces on Parkwood.

I feel that a project of smaller cope would be far better for the neighborhood and for Lakewood as a whole.

Thanks for your consideration.

Sincerely,

Mallika Lavakumar.

Schwarz, Johanna

From: Alex Kieckhafer <alex.kieckhafer@gmail.com>
Sent: Sunday, April 7, 2019 9:01 PM
To: Planning Dept
Subject: Concerns regarding Solove Development

To Whom it May Concern:

I am writing to express my concern regarding the current plans by Solove Development for the former Spitzer site.

I am a resident of Lakewood - I live at 1532 Parkwood, which is less than a block away from the proposed development. My concerns are primarily safety-oriented and related to the value of my home.

1: I have serious concerns regarding the flow of traffic in and out of the development's parking garage. Since the only entrance to the garage is on Parkwood, I am particularly concerned how residents of the proposed complex will exit the parking garage. Apartment residents will have to choose whether to turn north towards Detroit (with a potentially long wait for traffic to clear), or turn south and proceed to Franklin (or to Madison or beyond) and not have to deal with turning into Detroit traffic. This will funnel the traffic directly past my home, on a street not meant to be used as a major arterial road. We already have issues with people taking Parkwood to bypass Bunts, and this will only exacerbate the problem. I have small children, and I'm worried that they won't be able to play in the front yard if this project goes forward as-is, because there may simply be too much danger from heavy traffic on the street. Furthermore, all of that increased traffic at the Parkwood-Franklin intersection, especially during morning rush hour, will make that area much more dangerous for the mass of high school students traversing that area.

2: Parking is a major concern for myself and many of my neighbors. Parking on Parkwood is not usually an issue - unless there is a high school football game - but adding a 275-unit apartment complex with a 40% margin on parking leads me to believe that there will be significant spill-over onto the nearby streets. Given the price point and target audience of the complex, many of the units will be rented by married couples - which usually means two cars per unit. The proposed garage can only handle the load if 40% of the units have married couples with two cars, and I find it hard to believe that this will be the case. Additionally, even if the garage is used at the rates Solove predicts, any guests visiting the residents of the complex will likely need to park on the nearby streets. Between residents unable to find garage parking and guests who will likely need to park on the street, I'm worried that Parkwood (and Wyandotte and Giel) would be completely choked with cars associated with the apartment complex, to the point that they will be unusable for resident parking.

3: While I am far enough away that the prospect of a looming, Monolith-like presence is not my greatest concern, I'm worried about depressed property values associated with the project. We know from the meeting on the 4th of April that several people have noticed significantly less interest in nearby homes for sale, including a Parkwood resident who is trying to sell and saw greatly decreased offers vs. what he would have expected given the overall market in Lakewood. I am not enthusiastic about the prospect of losing as much as 50% of the value of my home if this complex goes in. I also worry about some of the newer residents of Parkwood who, through no fault of their own, may end up underwater on their mortgage because the value of their home may drop below their mortgage balance.

Finally, I believe that the nature of the project - that of an 8-story building dropped into the middle of an area with nothing taller than 3-4 stories currently - is simply out of place. This project will not fit with the

neighborhood, and instead detract from the current aesthetic - that of a neighborhood of single- or multi-family homes, smaller apartment buildings, and related, where there truly is a sense of community. The sight of an 8-story apartment block, plus the increased traffic, noise, and risks to safety on our streets, may irretrievably damage the "feel" of the neighborhood I call home.

Thank you for your consideration.
Alex Kieckhafer

Schwarz, Johanna

From: Bullock, Tom
Sent: Monday, April 8, 2019 6:39 PM
To: Ruth Higgins; Planning Dept; Milius, Katelyn; Summers, Mike; O'Leary, Sam; Anderson, David; John.Litton@lakewoodoh.net; Rader, Tristan; George, Meghan; Dan.OMalley@lakewoodoh.net; Sylvester, Bryce
Subject: Re: Solove's proposed building Bunts/Wyandotte

Ms. Higgins,

Thanks for your letter. Please see below the text of a letter I just shared with your neighbor Ron that speaks to many of the issues you raise. Traffic flows are important, and likely are additional traffic control steps needed before such a proposal can be finally approved. We certainly need to understand traffic impacts better, and I anticipate that a parking study will come at a future date.

Several residents have commented that the proposed development is "too big". To translate that into specifics the City can address, I've talked with some of your neighbors to clarify how "too big" might affect neighbors in an objective sense. The issue we identified were: parking, traffic, and scale/proximity to neighbors. (More on this below.)

I understand there is concern about these units being rental rather than for sale. To speak to whether the owner and residents would have a stake in Lakewood: the building itself will be owned and retained by the developer, who would have a long-term interest in maintaining a \$40 million investment in order to attract the high rents he intends to charge. As an owner, he'll have a stake in the community and pay property taxes to the schools, library, and city. Tenants will pay income taxes as well, and shop at Lakewood's unique, local store, helping to keep them open and their business strong. The proposal, if built, would add more of a housing type that Lakewood currently has little or none of (Class A residential, new-built, for rent), meeting a strategic goal identified at least as far back as the 2005 Grow Lakewood Commission report.

In my view, rather than oppose the project no matter what, we should be in the learning phase to understand the pros and cons and get a clearer focus on how it might successfully fit into the neighborhood. It may be that it can't be done and the Planning Commission declines support, but I don't think we know that yet.

Sincerely,
Tom

P.S. Here's a copy of the letter to Ron I referenced above:

Ron,
Thanks for the check in. Our conversations with your neighbors have identified at least these three core issues:

1. Parking impacts;
2. Traffic impacts;
3. Size/scale/closeness to residents.

Other matters, such as architecture (which is of high quality, and will be refined this Thursday by ABR) and ownership type (rental vs. for sale) we've discussed and I think come to some understanding that these are either resolved, on their way, secondary, or addressed in the three listed above.

For these core issues, I've spent time since we last spoke gaining understanding (and will continue to do so). I think we can get information on the first two to resolve our concerns and/or point the way to solutions:

1. For parking, the project proposes 1.4 (or 140 percent) off-street parking spaces per unit, well above our code-required 1.0 per unit. This is significant, and well above what many projects have proposed. Is it sufficient? The Planning Commission will evaluate that, but I've asked the developer to unpack for us his logic in setting the number of parking spaces at this significant level, which he thinks is important to his ability to successfully rent to a tenant (whose first question will be, "Where do I park?"). I'm asking the developer to provide the City his analysis for a review by Planning staff and the Planning Commission, so that the City has confidence that there is sufficient parking, or can take steps if not.
2. For traffic, I'm sure that we will need to take steps to manage traffic, and the proposal in its current form doesn't include everything needed. The parking study you are asking for I think will come, but at a later step since it costs significant time and money (and there's no sense incurring that cost if the Planning Commission doesn't indicate a certain level of approval for the proposal). Those studies and the traffic managements steps they'd point to will be required before any final approval of the project. For traffic, the good news is that the project is right on Detroit, a major thoroughfare, where it should be (as opposed to deep in a neighborhood). We'll still need to better understand potential traffic flows to make sure it's handled properly. This should be achievable.

I think it's the third core issue, proximity to residents and "massing" of the proposed buildings, which is the area that will receive focus in the coming month. As we discussed in the hallway, I heard Mr. Solove asking the Planning Commission for clear feedback so he could productively use the next four weeks. I also heard him say that he's open to other solutions, but that he hasn't found one other than what he's proposed. That's different than ruling out any changes, if the financial constraints on the project can be met.

Our opportunity, coming out of last Thursday's Planning Commission meeting, is to use the clarity with which each party--the developer and the Planning Commission--spoke to drill down on these core issues and determine whether we can succeed. As you know, I think we must work hard to get to yes since there are very significant benefits to this project, so it's a priority to me to work to successfully integrate it into the neighborhood. I don't at this moment know the specifics of how we might get there and what changes that might result in, but I want to try, and I'm cautiously optimistic that we *can* find a path to refine and improve this proposal so it can more successfully integrate into Lakewood neighborhoods with regards to parking impacts, traffic impacts, and scale and proximity.

Sincerely,
Tom

Tom Bullock
Lakewood City Council at Large
216-395-7LWD (-7593)

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Report-a-Problem webform: tinyurl.com/qxkl5be

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From: Ruth Higgins <Sunshineruth@ameritech.net>

Sent: Monday, April 8, 2019 1:27 PM

To: Planning Dept; Milius, Katelyn; Summers, Mike; Bullock, Tom; O'Leary, Sam; Anderson, David; John.Litton@lakewoodoh.net; Rader, Tristan; George, Meghan; Dan.OMalley@lakewoodoh.net; Sylvester, Bryce

Subject: Solove's proposed building Bunts/Wyandotte

April 8, 2019

I attended the planning commission meeting last Thursday to listen to questions and answers concerning this proposed structure.

I have been attending meetings at the library with the group opposed to this building as it is proposed at this time. I absolutely agree with the people that spoke giving their opinions on this matter.

I have lived in Lakewood my entire life. I own a home at the corner of Wyandotte and Franklin and have been here for over 50 years. We have always loved living in Lakewood it is a great place to live. Lakewood is statistically the most congested city in all of Ohio and the most congested city between Chicago and New York in relationship to square miles. So why exactly is there a need to increase this congestion in our city?

Eight stories of apartments, 275 units in this small area of an already congested traffic area is appalling. The increased traffic on our small, narrow side streets is completely unacceptable!! to say nothing of being unsafe. Before long you will have a traffic light at every street crossing Franklin/Detroit and Madison. As it stands now on Franklin there are traffic signals at Bunts/2 at the high school/Robinwood - none at Olivewood or Blossom Park then one at Lincoln, you talked about installing one at Marlowe for the hospital area Belle has one St. Charles is free then one at Warren Rd. In 9 city blocks you will have 7 traffic signals!! If you then add all the traffic on Parkwood or Wyandotte with this new complex you will add yet another light.

This plan is absurd for so many reasons. You claim the income tax from the new residents will help the city, yet you did not care about losing income tax from 1500 Lakewood Hospital employees. It was of no importance then so why now?

Mr. Solove said after the meeting that it has to be 8 stories high for the view of the Lake and for him to charge for that view and make money???? So are you going to stand by us, the home owners who are in Lakewood because of its charm and friendliness and have been here supporting the city, maintaining our homes and investing in them. This should be the main concern for all of you not Mr. Solove's bank account and greed.

Renters do not have an actual investment in the city, we DO! You have been elected and appointed for us your citizens not Mr. Solove's net worth.

Please, Please consider toning this project down. No 8 stories right on the sidewalk with 270 rentals it is NOT what Lakewood needs. If people want a lake view then they can go down to the high rises already on the

lake. It is not right that we should have to put up with a monstrosity
so new renters can "have a view of the lake"!!!

Very sincerely Ruth Higgins

1543 Wyandotte Ave.

Schwarz, Johanna

From: Donalyn Pubal <dlpub@sbcglobal.net>
Sent: Tuesday, April 9, 2019 10:26 PM
To: Planning Dept; Katelyn Milius; Bullock, Tom; Rader, Tristan; George, Meghan; Summers, Mike; O'Leary, Sam; Litten, John; Anderson, David; Daniel Omalley
Subject: Re: 8 STORY APMT. BUILDING & 5 STORY GARAGE

Dear Planning Commission, Architectural Board, Council Members and Mayor,

I have been a home owner and resident on Parkwood Road for the last 16 years. My family and I love our home and living on our desirable street. We are very fortunate to be a part of such a wonderful neighborhood. That being said, we have a lot of justified concerns with this potential new construction site that is planning on having over 270 units along with a 5 story parking garage across the street. This would forever change our wonderful street and neighborhood. As you know, not all change is good! This development would negatively impact all the residents and our property values.

Concerns:

- * The number of people and the number of living units that would be squeezed into such a small plot of land/area
- * The height of the buildings - 8 story apartment complex and 5 story parking garage are much too high
- * The increased volume of traffic - a big safety issue for all the residents, especially for all the children who live on our street -Please do NOT compromise our safety for the money
- * The design of the building is too contemporary, it does NOT integrate well into our neighborhood

The apartment building size should only be 4-5 stories high and a 2 story parking garage to better integrate into our neighborhood/community. Also, close off Parkwood Road and make it a cul-de-sac.

Bottom line - This is NOT the right type of development for this parcel of land.

Thank you for your consideration.
Donalyn Pubal-Kundmueller

Schwarz, Johanna

From: Bullock, Tom
Sent: Wednesday, April 10, 2019 8:10 AM
To: Donalyn Pubal
Cc: Planning Dept; Katelyn Milius; Rader, Tristan; George, Meghan; Summers, Mike; O'Leary, Sam; Litten, John; Anderson, David; Daniel Omalley
Subject: Re: 8 STORY APMT. BUILDING & 5 STORY GARAGE

Donalyn,

Thanks for your letter. Please see below the text of a letter I just shared with your neighbor Ron that speaks to many of the issues you raise. Traffic flows are important, and likely are additional traffic control steps needed before such a proposal can be finally approved. We certainly need to understand traffic impacts better, and I anticipate that a parking study will come at a future date. I'll be happy to support additional traffic control measures as called for, once we identify specific steps that can be helpful.

Several residents have commented that the proposed development is "too big". To translate that into specifics the City can address, I've talked with some of your neighbors to clarify how "too big" might affect neighbors in an objective sense. The issue we identified were: parking, traffic, and scale/proximity to neighbors. (More on this below.)

In my view, rather than oppose the project no matter what, we should be in the learning phase to understand the pros and cons and get a clearer focus on how it might successfully fit into the neighborhood. It may be that it can't be done and the Planning Commission declines support, but I don't think we know that yet.

Sincerely,
Tom

P.S. Here's a copy of the letter to Ron I referenced above:

Ron,
Thanks for the check in. Our conversations with your neighbors have identified at least these three core issues:

1. Parking impacts;
2. Traffic impacts;
3. Size/scale/closeness to residents.

Other matters, such as architecture (which is of high quality, and will be refined this Thursday by ABR) and ownership type (rental vs. for sale) we've discussed and I think come to some understanding that these are either resolved, on their way, secondary, or addressed in the three listed above.

For these core issues, I've spent time since we last spoke gaining understanding (and will continue to do so). I think we can get information on the first two to resolve our concerns and/or point the way to solutions:

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his ability to successfully rent to a tenant (whose first question will be, "Where do I park?"). I'm asking the developer to provide the City his analysis for a review by Planning staff and the Planning Commission, so that the City has confidence that there is sufficient parking, or can take steps if not.

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Our opportunity, coming out of last Thursday's Planning Commission meeting, is to use the clarity with which each party--the developer and the Planning Commission--spoke to drill down on these core issues and determine whether we can succeed. As you know, I think we must work hard to get to yes since there are very significant benefits to this project, so it's a priority to me to work to successfully integrate it into the neighborhood. I don't at this moment know the specifics of how we might get there and what changes that might result in, but I want to try, and I'm cautiously optimistic that we *can* find a path to refine and improve this proposal so it can more successfully integrate into Lakewood neighborhoods with regards to parking impacts, traffic impacts, and scale and proximity.

Sincerely,
Tom

Tom Bullock

Lakewood City Council at Large

216-395-7LWD (-7593)

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Sign up for emergency notifications: tinyurl.com/q5budby

How was our service?: <http://tinyurl.com/qgus4sd>

On Apr 9, 2019, at 10:24 PM, Donalyn Pubal <dlpub@sbcglobal.net> wrote:

Dear Planning Commission, Architectural Board, Council Members and Mayor,

I have been a home owner and resident on Parkwood Road for the last 16 years. My family and I love our home and living on our desirable street. We are very fortunate to be a part of such a wonderful neighborhood. That being said, we have a lot of justified concerns with this potential new construction site that is planning on having over 270 units along with a 5 story parking garage across the street. This would forever change our wonderful street and neighborhood. As you know, not all change is good! This development would negatively impact all the residents and our property values.

Concerns:

* The number of people and the number of living units that would be squeezed into such a small plot of land/area

- * The height of the buildings - 8 story apartment complex and 5 story parking garage are much too high
- * The increased volume of traffic - a big safety issue for all the residents, especially for all the children who live on our street -Please do NOT compromise our safety for the money
- * The design of the building is too contemporary, it does NOT integrate well into our neighborhood

The apartment building size should only be 4-5 stories high and a 2 story parking garage to better integrate into our neighborhood/community. Also, close off Parkwood Road and make it a cul-de-sac.

Bottom line - This is NOT the right type of development for this parcel of land.

Thank you for your consideration.
Donalyn Pubal-Kundmueller

Schwarz, Johanna

From: Gregory <gregorygipson@hotmail.com>
Sent: Wednesday, April 10, 2019 10:16 AM
To: Planning Dept; Milius, Katelyn; Sylvester, Bryce
Subject: Solove Wyandotte/Parkwood/Detroit project

Dear Members of the Planning Commission,

As I was unable to attend the latest meeting, I wanted to submit my comments on the latest design of the above-referenced Solove project. I understand the meeting was well-attended and that residents continued to raise strong objections to the height, density, and traffic effects of this project. I would like to reiterate those points on my own behalf, and to emphasize that I live on Wyandotte at Madison, and still have these objections -- my point being that not only the immediately surrounding blocks are bothered by this project.

First, I object to the massive additional traffic this project will cause, as I already see speeders cutting down my block to get to 90, and in the evenings frustratedly seeking parking. I walk to the Rapid station at Triskett, so can say from personal experience that traffic is significant on my residential block, with cars heading south towards Lakewood Heights. I also worry that Lakewood HS and the current Lakewood City Academy (whatever that facility will become in future school years) and Emersons students will be endangered as they walk to school and from it, as traffic grows from this development.

Secondly, the massive size of these proposed buildings, with no setback save a sidewalk, is not only drastically out of proportion to the surrounding area but has no architectural commonality -- while also failing to demonstrate any particular architectural merit -- with the neighborhood it will utterly dominate if it is built.

Finally, when Lakewood should be focusing on affordable family housing that helps residents stay here rather than moving to Lorain County for larger housing (something I've known at least 3 families to do in the last five years), or needing to find cheaper rental property outside of the City, I vehemently disagree that we should instead permit the construction of a 270-unit building, 80% of whose units will be single/studio apartments priced as "luxury" units. I believe that both the scale and purpose of this development are contrary to sound, thoughtful development that is supposed to guide the Commission, and for that reason alone should give you all pause.

I have seen Mr. Solove's insulting pretense of a redesign, which in fact redesigns nothing of any significance, and demonstrates a very strong resistance to having to address any of the concerns of the residents he wants to build among, and I find it wanting in all of the same places it failed in its original iteration. Mr. Solove has not actually responded to the legitimate critique he has received, and in fact has demonstrated that he does not intend to do so. I think the Commission should find this obstinacy concerning and worthy of careful consideration.

Greg Gipson
2040 Wyandotte Ave.

Schwarz, Johanna

From: Bullock, Tom
Sent: Thursday, April 11, 2019 10:15 AM
To: Steve Mariakis
Cc: Planning Dept; Milius, Katelyn; Summers, Mike; O'Leary, Sam; Anderson, David; Litten, John; Rader, Tristan; George, Meghan; Dan.OMalley@lakewoodoh.net; Sylvester, Bryce
Subject: Re: Parkwood Project

Hi Steve,

In response to these points:

"It is my hope that the planning commission votes to NOT move forward with this project as is"

I think we all agree additional changes are needed. We're not at the end of discussions — we're at half time. More changes could be negotiated—we'll see.

"...OR with a new proposal with a loop hole of mixed used proposal to circumnavigate the zoning."

This is not a loophole, which is the entire point. It's use by right—just as McDonald's was a use-by-right use for the former Detroit Theater.

At the moment, the City is in negotiations via Planned Development, which provides additional flexibility to the developer in exchange for additional control from the City. It can be a productive path for both parties, depending on the circumstances: both agree to additional features in exchange for additional quality, from a mutually satisfactory position.

If the Planned Development route doesn't result in a mutually-satisfactory agreement, the developer could pursue approvals via use by right. Will they? I have no idea. If they did, however, the community may have fewer tools to negotiate for quality and neighborhood impacts.

That's why I think we are best served by first exploring what we can achieve via the Planned Development route. We'll see how it shakes out.

On Apr 11, 2019, at 9:56 AM, Steve Mariakis <stevemariakis@gmail.com> wrote:

It is my hope that the planning commission votes to NOT move forward with this project as is OR with a new proposal with a loop hole of mixed used proposal to circumnavigate the zoning.

Schwarz, Johanna

From: Carol Andrews <carolk1107@yahoo.com>
Sent: Monday, April 15, 2019 12:02 PM
To: Planning Dept
Subject: Spitzer Project

>>>

>>> I am writing to express my concerns about Solove's proposal for the Spitzer site. My concerns are similar to my neighbors, but I feel it is important to add my name to the long list of opponents. In addition to living on Parkwood, my husband and I own 4 rental units- 3 of which will be adversely affected by the traffic caused by this project and all of which could be affected by the increase in the number of rental units in the city.

>>>

>>> In addition to traffic, some of my other issues include:

>>>

>>> *The height of the building. 8 stories is just too large and nearly 300 units is too dense for the size of the lot. Mr. Solove has made it clear that he is not willing to compromise on this because he wants the building to have a Lake view so he can charge a higher rent. I feel that if someone is willing to pay top dollar for a Lake view they will go to the Gold Coast and not settle for the mediocre view that this building will surely have.

>>>

>>>

>>> *The proposed architecture is poor, at best. It is clear that they do not have the skill or proper knowledge of Lakewood architecture to be able to make it fit in the neighborhood. They say they have been working on this for 2 years. If they don't get it by now they never will.

>>>

>>> *It is clearly a safety issue to require the bulk of the residents to have to cross the street to get to the parking garage. It is a problem even if they all use the cross walk at Detroit. But it is naive to believe that will happen.

>>>

>>> *Parkwood is being required to bear 100% of the traffic due to it being the only entrance/exit for the parking garage. I feel this fact alone will ruin Parkwood as we know it. Parkwood is currently a beautiful, well kept and desirable street.

>>>

>>> *Mr. Solove claims that the project cannot be profitable unless it is this large. His proposal for Barry Buick at half the size proves that he is not being truthful. We were heartened to see this proposal because we thought he was going to redesign Spitzer like this too.

>>>

>>> I implore everyone involved in approving this project to see that it is not right for Lakewood. We can and should do better! Please remember Lakewood's community vision to "protect the quality and character of our residential neighborhoods." With that in mind it is easy to see that this project must be rejected!

>>>

>>> Sincerely,

>>> Carol Andrews

>>> 1510 Parkwood Rd

>>>

>>> Sent from my iPad

>>

>

Schwarz, Johanna

From: Bullock, Tom
Sent: Tuesday, April 16, 2019 11:45 AM
To: Daniel Pruitt
Cc: Milius, Katelyn; Summers, Mike; Anderson, David; George, Meghan; Rader, Tristan; O'Malley, Daniel; Litten, John; O'Leary, Sam; Planning Dept
Subject: Re: ARB Meeting Thursday evening April 16th. at the City Hall Library

Dan,
Thanks for your note. As I think you've heard me discuss, the three impacts that must be focused on are traffic, parking, and scale (meaning height and setbacks). We have traffic control tools in our toolbox that could successfully address traffic; and a forthcoming traffic study, if we ever get to that point, would help us understand which to use, where, and how.

If you are experiencing excessive speeds on Giel right now, we should address that regardless of this development. We have traffic enforcement and traffic calming tools that we have used successfully on other streets.

I don't view this project, myself, in absolute terms of "X number of units equals too big" or "could never be successful." Rather, I think we need to be specific about what neighbor impacts we can objectively focus on.

If we can do this project well, there are significant upsides: more revenue, more residents, more future homebuyers, more customers for unique Lakewood businesses, filling large gaps in the building line in Lakewood's commercial corridor, and a signal to additional developers that Lakewood is a successful market for their investment. That can help us keep our city and school finances on a strong track, and help us hold the line on taxes—which is something I am very serious about doing. I think we can all agree that we don't want more tax increases—so you won't hear me make bright line statement saying "never" about development proposals.

The question is, can we make it work? We still have work to do in that regard, so we don't know. But we owe it to ourselves and our community's vibrancy to see if we can get to yes.

Sincerely,
Tom

On Apr 16, 2019, at 11:29 AM, Daniel Pruitt <glassfusingartist@sbcglobal.net> wrote:

I attended the 5:30 meeting last evening and would like to offer my thoughts in regard to the Solove project at the corner of Bunts and Detroit that encompasses Wyandotte and Parkland. My initial response is this is not a realistic project for this particular spot in Lakewood. My overall sense was the architect was attempting to appease the board, primarily because of so much resistance and outrage from citizens whose property, and lifestyles will be dramatically impacted by it.

After all has been said the fact remains, the developer is attempting to force too much into too small a space whether changes are made to present a more appealing series of boxes with improved facades and greater pushback from the street, there will be too many individuals in that space. Traffic will dramatically increase, tenants will be transient in many cases, perhaps not putting roots down and starting families in Lakewood, or making the city their permanent home, foot travel for school children

on Bunts will be seriously compromised by increased vehicular traffic and the light and noise levels will be dramatically increased.

Lakewood is a truly unique city in Ohio, but that can change if City Hall and our Administration do not have a clearly defined vision that serves our citizens. In my opinion this has been the driving force during the last two administrations. Our community has strong roots grounded in family, community as well as commerce and development. With 52,000 residents in a two and a half strip of land along Lake Erie with 9,285 residents per sq. mile; 5.6 square miles, we are close to capacity.

My wife and I have owned our home on Giel Ave located half way between Merl and Clifton for 25 years. We have raised our family there, attended block parties, interacted with our neighbors and now enjoy our three grandsons whose age range from 3-11 who love to go to Merl and Foster Park. During the last decade the traffic has steadily increased on Giel, in amount and speed from 25 miles per hour to at times 50 miles per hour.

Our street has been revitalized during the last 6-7 years by complete renovations of 5 homes on our block between Clifton and Merl. Five homes on the block from Merl to Detroit have also been renovated. Our property values have increased and our street has been given new life with young families moving in.

Lakewood is going through growing pains and we have a new generation of youthful leaders who are coming aboard to take this city into the next 30 years. Our community is unique in many ways and when I considered where I wanted to settle and raise my family 30 years ago I decided on Lakewood because of the charm and variety of homes, the parks, as well as the proximity to a vibrant and unique downtown, not to mention the diversity found here.

Sincerely,

Dan

Daniel Pruitt Studios L.L.C.

www.danielpruittstudio.com

216.632.4552

Schwarz, Johanna

From: Turkuc, Wendy <TURKUCW@ccf.org>
Sent: Tuesday, April 16, 2019 4:30 PM
To: Planning Dept; Summers, Mike; Milius, Katelyn; Bullock, Tom; Rader, Tristan; George, Meghan; O'Leary, Sam; Litten, John; Anderson, David; O'Malley, Daniel
Subject: Concerns/Considerations re: property planned for Detroit Spitzer/Educators

I apologize for the delay with this email. I had tried to make it to some of the city planning meetings, but it is difficult with work and family. I am grateful and supportive of a developer wanting to invest in our city. I think growth and revitalization is healthy for a community. However, I am concerned about a few details based on the original plan so my apologies if they have already been addressed. Has the plan been changed to be only 270 apartments, down from 500?

Small Historic, Hometown Feel:

- An 8-story building really changes the landscape of the neighborhood. Lakewood has a family feel to it, one that is historic and has a sense of being safe and "hometown". I am nervous about the feel of something this large located at this intersection.
- Apartment dwellers tend to be more transient than homeowners, which can reduce the comfort and security that comes with knowing your neighbors. I speak from a block club captain's perspective as to what I hear from the neighbors. We have been working hard over the past 2 summers to get to know each other and to bring back that sense of family on our street.
- Overflow parking – where will this be? Our streets can be quite congested as it is for evening parking with society now having many families with 2 working adults and often teenagers with cars, as well as guests.

Traffic concerns:

- Bunts is a heavy traffic road as it stands today, used also for emergency vehicles, and our high school etc. We have 50 house on our Bunts Road segment between Detroit and Franklin. This would be adding almost 5.5 block segments all on this street. Although the plan hopes that traffic will exit out Detroit and other streets, I feel that Bunts will see an increase. It would have been more ideal for this much traffic to exit out onto a 4-lane (2 east/2 west w/turning lane) like Clifton.
- The intersection at Bunts and Detroit can be difficult to get through as is, especially with the high volume of cars exiting the Getgo, paired with the slight hill that the southbound folks have coming up past Moon's food. When you are heading north, turning left, it is difficult to see cars coming especially if there is a southbound car in the left turn lane. Have any accommodations been made to change the light patterns to have perhaps a left turn signal etc.?
- The same with the Bunts-Franklin intersection with traffic and lack of lights to help orchestrate.
- Which brings me to another intersection, the Madison Avenue and Bunts one. The way the street parking is allowed to extend almost up to the intersection, it is difficult to properly achieve a left turn lane while some cars wait to go straight or turn right. If the parking was restricted further north on Bunts, it would allow for two lanes of traffic to form. One turning left and one for straight/right turns.

I have additional concerns regarding tax on utilities etc. but I trust the city engineers.

Thank you for listening.

Sincerely,
Wendy



Wendy Turkuc, MBA, CBRM | Department Administrator
Department of Subspecialty Care for Women's Health
Ob/Gyn & Women's Health Institute
Cleveland Clinic | 9500 Euclid Ave. A40 | Cleveland, OH 44195
Cell: 216-312-3401

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Schwarz, Johanna

From: Amy Martin <amyfrancine@att.net>
Sent: Wednesday, April 17, 2019 9:59 AM
To: Planning Dept; Milius, Katelyn; Sylvester, Bryce
Subject: Spitzer Development

Good morning,

I am writing you to provide my perspective of the Architectural Board of Review Meeting on April 11th, in regards to the Spitzer/Educators Music property development.

The rendition of the project that was presented to the Planning Commission in the week prior (April 4th) was discussed by the Architect for JSDI before public comments were taken. There were at least 14 speakers, all opposed in some form or another to the current scale, scope, size, and design of the project. Perhaps one of the most striking speakers was from an audience member who was there to speak about the Lake Road Project. Once she heard about the Spitzer proposal, she was incredulous and asked to address the Board, which she did very eloquently by tying in the Community Vision to her opposition of this dense project. JSDI's architect spoke about the "industrial" nature of the design and how it would fit in to the 3 and 4 story houses on the streets bordering the project. I challenged how an "industrial" design fits into the neighborhood, since the overwhelming majority of our houses are pre-WWII. I also pointed out that on Parkwood there are no 3 and 4 story houses. Our block consists of bungalows, Cape Cods and Colonials, the tallest of which are 2.5 stories. One has to wonder if JSDI has even taken a drive down Parkwood, Wyandotte, or Bunts to see the type of residential architecture that exists on these streets.

Members of the Board then addressed the Architect to ask/challenge some of the current design aspects of the project such as setbacks, green space, the access road, and general design. Most agreed that the developer was moving in the right direction but still had a long way to go. One of the discussions focused on how people would actually move into the buildings. The largest component of the development between Parkwood and Bunts has a loading dock/freight elevator built off of the access road leading from Bunts Road. However, the 5 story building along Detroit has just a small area in the back (off Wyandotte) for garbage pickup and truck unloading. The Architect then stated that people moving into that building of the complex could park their trucks in the parking garage and unload from there. When asked by a member of the Board what the height of the garage ceiling was and if it could indeed accommodate a box truck, the Architect said, "I'm not certain, we'll have to look into that." I was sitting directly behind the design team/architects for the Lake Road project. They actually chuckled out loud in response to her answer. To actually hear the architect of this project not be able to answer such a simple question was indeed enlightening to those of us in attendance.

Finally, the Chair of the Board addressed our concerns regarding only one entrance/exit to the parking garage. Her position is that she doesn't want to disrupt the sidewalk on Wyandotte by having an egress added there. I'd like to point out that there is already a "break" on this street leading into Educator's parking lot, so that sidewalk is already disrupted. As far as traffic and safety of this only egress is involved, does that mean we're being told that the safety of Parkwood Road residents is not as important as a "break" in the sidewalk on Wyandotte? I have taken note that the two existing parking garages in Downtown Lakewood (South of Detroit between St. Charles and Warren and North of Detroit between Belle and St. Charles), both have more than one egress, so there is already a precedent established for this design aspect.

Lastly, in the final comments by the Board, one member actually said that the current design “bleeds” into the neighborhood. I would think that “hemorrhage” would be a more appropriate word.

We look forward to the upcoming Planning Commission meeting in May to see if the Developer has made any additional changes to address these concerns. I also appreciate seeing several members of Council at these meetings to see first-hand what is being presented.

Thank you,

Amy F. Martin

1432 Parkwood Road

Schwarz, Johanna

From: Bullock, Tom
Sent: Wednesday, April 17, 2019 4:10 PM
To: Turkuc, Wendy; Planning Dept; Summers, Mike; Milius, Katelyn; Rader, Tristan; George, Meghan; O'Leary, Sam; Litten, John; Anderson, David; O'Malley, Daniel
Subject: Re: Concerns/Considerations re: property planned for Detroit Spitzer/Educators

Wendy,

Thanks for your note. Like you, I think growth and revitalization are healthy and needed in Lakewood: we are experiencing growth but cannot take for granted that business investment and increased property values of recent years will always be there, unless we plan thoughtfully. At the same time, growth comes with costs, and our challenge is to manage growth and integrate it as best we can into our neighborhoods and commercial corridors.

All the issues you raise are still pending, so thanks for speaking up. To address a few points:

- Parking is proposed at 1.4 spaces per unit, well above the code-required 1.0-per unit. This is significantly stronger than many proposed developments. I've asked the developer to explain why he considers that to be sufficient and what impacts the neighborhood can expect. Note that he can't successfully rent to tenants without sufficient parking, so he has as much or more at stake on parking capacity as any of us.
- Traffic measures no doubt will be needed, and a forthcoming traffic study would help us determine which, where, and to what extent we'd deploy them.

Note that if you are experiencing traffic challenges, we should address that regardless of this development. We have traffic enforcement and traffic calming tools that we have used successfully on other streets.

- Apartments will be efficiencies, one-, and two-bedroom starting at relatively high prices (\$900/month for efficiencies, going up from there). The tenants likely to be attracted are empty nesters and young professionals in-migrating to Lakewood. Lakewood's opportunity would be to attract these tenants to stay in Lakewood long-term and perhaps buy a home.
- Scale/size is probably the biggest matter to address: ensuring there are appropriate setbacks and screening for neighbors. I expect this to be the subject of further negotiations between the Planning Commission and the developer.

If we can do this project well, there are significant upsides: more revenue, more residents, more future homebuyers, more customers for unique Lakewood businesses, filling large gaps in the building line in Lakewood's commercial corridor, and a signal to additional developers that Lakewood is a successful market for their investment. That can help us keep our city and school finances on a strong track, and help us hold the line on taxes—which is something I am very serious about doing.

The question is, can we make it work? We still have work to do in that regard, so we don't know. But we owe it to ourselves and our community's vibrancy to see if we can get to yes.

Sincerely,

Tom

Tom Bullock
Lakewood City Council at Large
216-395-7LWD (-7593)
Report-a-problem free smart phone app: tinyurl.com/kjgsb2x
Report-a-Problem webform: tinyurl.com/gxkl5be
Sign up for emergency notifications: tinyurl.com/q5budby
How was our service?: <http://tinyurl.com/qgus4sd>

From: Turkuc, Wendy <TURKUCW@ccf.org>

Sent: Tuesday, April 16, 2019 4:29 PM

To: Planning Dept; Summers, Mike; Milius, Katelyn; Bullock, Tom; Rader, Tristan; George, Meghan; O'Leary, Sam; Litten, John; Anderson, David; O'Malley, Daniel

Subject: Concerns/Considerations re: property planned for Detroit Spitzer/Educators

I apologize for the delay with this email. I had tried to make it to some of the city planning meetings, but it is difficult with work and family. I am grateful and supportive of a developer wanting to invest in our city. I think growth and revitalization is healthy for a community. However, I am concerned about a few details based on the original plan so my apologies if they have already been addressed. Has the plan been changed to be only 270 apartments, down from 500?

Small Historic, Hometown Feel:

- An 8-story building really changes the landscape of the neighborhood. Lakewood has a family feel to it, one that is historic and has a sense of being safe and "hometown". I am nervous about the feel of something this large located at this intersection.
- Apartment dwellers tend to be more transient than homeowners, which can reduce the comfort and security that comes with knowing your neighbors. I speak from a block club captain's perspective as to what I hear from the neighbors. We have been working hard over the past 2 summers to get to know each other and to bring back that sense of family on our street.
- Overflow parking – where will this be? Our streets can be quite congested as it is for evening parking with society now having many families with 2 working adults and often teenagers with cars, as well as guests.

Traffic concerns:

- Bunts is a heavy traffic road as it stands today, used also for emergency vehicles, and our high school etc. We have 50 house on our Bunts Road segment between Detroit and Franklin. This would be adding almost 5.5 block segments all on this street. Although the plan hopes that traffic will exit out Detroit and other streets, I feel that Bunts will see an increase. It would have been more ideal for this much traffic to exit out onto a 4-lane (2 east/2 west w/turning lane) like Clifton.
- The intersection at Bunts and Detroit can be difficult to get through as is, especially with the high volume of cars exiting the Getgo, paired with the slight hill that the southbound folks have coming up past Moon's food. When you are heading north, turning left, it is difficult to see cars coming especially if there is a southbound car in the left turn lane. Have any accommodations been made to change the light patterns to have perhaps a left turn signal etc.?
- The same with the Bunts-Franklin intersection with traffic and lack of lights to help orchestrate.
- Which brings me to another intersection, the Madison Avenue and Bunts one. The way the street parking is allowed to extend almost up to the intersection, it is difficult to properly achieve a left turn lane while some cars wait to go straight or turn right. If the parking was restricted further north on Bunts, it would allow for two lanes of traffic to form. One turning left and one for straight/right turns.

I have additional concerns regarding tax on utilities etc. but I trust the city engineers.

Thank you for listening.

Sincerely,
Wendy



Wendy Turkuc, MBA, CBRM | Department Administrator
Department of Subspecialty Care for Women's Health
Ob/Gyn & Women's Health Institute
Cleveland Clinic | 9500 Euclid Ave. A40 | Cleveland, OH 44195
Cell: 216-312-3401

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Schwarz, Johanna

From: Martin F. Jones <martin.f.jones@sherwin.com>
Sent: Friday, May 3, 2019 10:58 AM
To: Planning Dept; Milius, Katelyn
Cc: O'Leary, Sam; Litten, John; O'Malley, Daniel; Bullock, Tom; Rader, Tristan; George, Meghan; Anderson, David; Summers, Mike
Subject: Development at Parkwood and Detroit

Hello All. My name is Marty Jones, and my wife, Peggy, and I live at 1521 Parkwood. We have lived here since 1993.

I have e-mailed you all earlier about the proposed development at Parkwood and Detroit.

That was before the Solove group presented their proposal to the Planning Commission and Arch Review Board, (ARB).

Now that they have, and you have all had a chance to see for yourselves what is proposed, I am e-mailing again from the perspective of the known vs. the earlier e-mail that was a little fear of the unknown.

There has also been a "revised" plan from the Solove group, if you can call it a revision. It was basically moving the pool and dog park, and making the building less box like looking.

But the major issues are unchanged. And those are, the height and size, the number of units/people, and the increased traffic from all these new people.

You all know that this is way too big and cramming 275 units/500 people into that small of an area is not smart. And it is not what Lakewood is. We are streets and homes and neighborhoods and a community.

At a recent meeting with the mayor, he stated that at present time, there was not enough support from the boards and from council to approve this plan. He also said the Solove group has been made aware of this.

At the last Planning Commission meeting in April, Mr. Solove said to the committee members, and later to a dozen or so residents outside the meeting room, that he needs somewhere around 27-280 units to make this profitable. And that building something smaller with 100-125 units and surface parking would not be doable from a business standpoint the way it is at the Barry Buick site.

He pretty much said he cannot reduce the number of units and in turn, lower the size and still make this a worthwhile project.

If that is the case, and to be fair to him and his company, wouldn't it be wise to tell him not to come back in June with a revision that makes things look more pretty but still has the 8 stories and 275 units?

I ask because the suggestions at the last ARB meeting talked about the color of the brick, the appearance of the main entrance, the set back from the street/sidewalk space, etc. What is the point in having him address these things if the size is always going to be a roadblock for him?

So please listen to the residents, the people who make up the city and our neighborhood. We would love to see something go in at Spitzer, but not this overwhelming project. We are not Chicago, we are not the Gold Coast.

We are one of many Lakewood neighborhoods with dedicated, Lakewood loving citizens. We cannot be ignored or passed over. We care and are passionate about our situation, that's why we turn out at the meetings and send e-mails. This love and passion for our block and our neighborhood has got to count and factor into your decisions.

Lakewood is the people and the families. It is not the property and the minuscule bump in tax revenue.

Thanks for your time and good luck.

Marty Jones
The Sherwin-Williams Company
Performance Coatings Group
Customer Complaint Coordinator - Industrial Wood
martin.f.jones@sherwin.com
216 566-3624 - Office

Schwarz, Johanna

From: Bullock, Tom <Tom.Bullock@lakewoodoh.net>
Sent: Friday, May 3, 2019 12:08 PM
To: Martin F. Jones
Cc: Sylvester, Bryce; O'Malley, Daniel; Anderson, David; Litten, John; Milius, Katelyn; George, Meghan; Summers, Mike; Planning Dept; O'Leary, Sam; Rader, Tristan; rwank@varbroscorp.com
Subject: Re: [EXTERNAL] Re: Development at Parkwood and Detroit

Marty,

Mr. Solove didn't make any final declaration. He was communicating with the Planning Commission, asking for clear feedback, which is needed if further revisions to the project are to be made. That's reasonable, and I think the Commission understood that to be a constructive comment (as did I).

He also shared with us some of the financials that go into the project that have led to the project he proposed. It's a tricky needle to thread, but it's possible there are other solutions.

The parking garage being so close to a house is my number one concern, but that garage is how significant parking is being provided. Without it, we would indeed have an unworkable parking situation for the neighborhood.

I don't agree the project is unsafe. If you're referring to tragic management, there are additional traffic controls and adjustments that can and will be made. Those are quite doable once a full traffic study is completed.

The point is, we're not at the end of the game. It's half time. Lots still to come.

Cheers,
Tom

PS I take a different view on Wendy's... little tax benefit, no property value benefit, no additional residents to pay taxes and grow our population, no positive investment signal to developers. What you would get: a permanent drive through for 50 years that harms, doesn't help walkability. AND yummy fryer smells and fast food litter on your street.

On May 3, 2019, at 11:57 AM, Martin F. Jones <martin.f.jones@sherwin.com> wrote:

Thanks Tom. And to help define what is too big, know that the Barry Buick project would be welcomed by the Parkwood/Bunts/Wyandotte folks. That size, (150 units), and height, (3 stories), is much more reasonable and agreeable.

Also, there is no parking garage with that project.

Also know that the residents at the north end of Parkwood have stated that a Wendy's, while not ideal, is a better alternative than the current proposal.

Eight stories and 275 units are both excessive, and ultimately, unsafe.

And I would like to be an optimist and think the next revision will address these things. But based on what Mr. Solove told us, that is not likely.

Thanks for the reply.

Marty Jones
The Sherwin-Williams Company
Performance Coatings Group
Customer Complaint Coordinator - Industrial Wood
martin.f.jones@sherwin.com
216 566-3624 - Office

From: "Bullock, Tom" <Tom.Bullock@lakewoodoh.net>
To: "Martin F. Jones" <martin.f.jones@sherwin.com>
Cc: "Planning Dept" <Planning@lakewoodoh.net>, "Milius, Katelyn" <Katelyn.Milius@lakewoodoh.net>, "O'Leary, Sam" <Sam.OLeary@lakewoodoh.net>, "Litten, John" <John.Litten@lakewoodoh.net>, "O'Malley, Daniel" <Daniel.OMalley@lakewoodoh.net>, "Rader, Tristan" <Tristan.Rader@lakewoodoh.net>, "George, Meghan" <Meghan.George@lakewoodoh.net>, "Anderson, David" <David.Anderson@lakewoodoh.net>, "Summers, Mike" <Mike.Summers@lakewoodoh.net>, "Sylvester, Bryce" <Bryce.Sylvester@lakewoodoh.net>
Date: 05/03/2019 11:47 AM
Subject: [EXTERNAL] Re: Development at Parkwood and Detroit

This email originated outside the Company

Mr. Jones,

There could be changes proposed beyond what so far has been presented by the developer. For this project, the City has some leverage to negotiate. I am interested to see what comes next, and don't want to prejudge. There's more negotiating to do and I am an optimist—it's quite possible we can get to yes.

As I've stated to your neighbors, it's helpful to clarify what "too big" and "too many" means: so far what I've heard is that the specifics that we can objectively measure include parking, traffic, and setbacks/screening/height. Traffic and parking can be successfully addressed; the big issue seems to be the scale.

Thanks for your letter,
Tom

On May 3, 2019, at 10:56 AM, Martin F. Jones <martin.f.jones@sherwin.com> wrote:

Hello All. My name is Marty Jones, and my wife, Peggy, and I live at 1521 Parkwood. We have lived here since 1993.

I have e-mailed you all earlier about the proposed development at Parkwood and Detroit.

That was before the Solove group presented their proposal to the Planning Commission and Arch Review Board, (ARB).

Now that they have, and you have all had a chance to see for yourselves what is proposed, I am e-mailing again from the perspective of the known vs. the earlier e-mail that was a little fear of the unknown.

There has also been a "revised" plan from the Solove group, if you can call it a revision. It was basically moving the pool and dog park, and making the building less box like looking.

But the major issues are unchanged. And those are, the height and size, the number of units/people, and the increased traffic from all these new people.

You all know that this is way too big and cramming 275 units/500 people into that small of an area is not smart. And it is not what Lakewood is. We are streets and homes and neighborhoods and a community.

At a recent meeting with the mayor, he stated that at present time, there was not enough support from the boards and from council to approve this plan. He also said the Solove group has been made aware of this.

At the last Planning Commission meeting in April, Mr. Solove said to the committee members, and later to a dozen or so residents outside the meeting room, that he needs somewhere around 27-280 units to make this profitable. And that building something smaller with 100-125 units and surface parking would not be doable from a business standpoint the way it is at the Barry Buick site.

He pretty much said he cannot reduce the number of units and in turn, lower the size and still make this a worthwhile project.

If that is the case, and to be fair to him and his company, wouldn't it be wise to tell him not to come back in June with a revision that makes things look more pretty but still has the 8 stories and 275 units?

I ask because the suggestions at the last ARB meeting talked about the color of the brick, the appearance of the main entrance, the set back from the street/sidewalk space, etc. What is the point in having him address these things if the size is always going to be a roadblock for him?

So please listen to the residents, the people who make up the city and our neighborhood. We would love to see something go in at Spitzer, but not this overwhelming project. We are not Chicago, we are not the Gold Coast.

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Lakewood is the people and the families. It is not the property and the minuscule bump in tax revenue.

Thanks for your time and good luck.

Marty Jones
The Sherwin-Williams Company
Performance Coatings Group
Customer Complaint Coordinator - Industrial Wood
martin.f.jones@sherwin.com
216 566-3624 - Office

Schwarz, Johanna

From: Sean Mcquay <smcquay73@gmail.com>
Sent: Friday, March 8, 2019 10:07 AM
To: Planning Dept
Subject: Lake road marathon development

Hi this email is in regards to the development being proposed at the now lake road Marathon. I live at 13903 Edgewater drive which is right behind the proposed development and I am confused on some point. The proposed plan for the Cluster Homes is showing that the dwelling being built at the back of the lot is 3.5 feet from my property line. 20 something feet from the side neighbors and 20 or so feet from the street According to section 1121.12 of the single family residential district chapter on cluster homes it states this.

- (5) No dwelling or other structure shall be erected within thirty (30) feet of a side or rear boundary line of the parcel.
- (6) No dwelling or other structure shall be erected within twenty (20) feet of another dwelling or structure.
- (7) The building line for that portion of the development, which fronts on a public street, shall be not less than fifty (50) feet.

If this is defined in chapter 1121 then how are they going to be able to construct this development and not adhere to any of these restriction.

I would appreciate it if you could respond and let me know how this will be handled.

Thank you

Sean McQuay

Sent from my iPhone

Schwarz, Johanna

From: Sean Mcquay <smcquay73@gmail.com>
Sent: Friday, March 8, 2019 10:49 AM
To: Planning Dept
Subject: Re: Lake road marathon development

I would also like to add that if we start allowing these type of cluster homes in to our medium density zones areas what is to stop other developers from turning single family homes into cluster homes. This would start to break down the whole neighborhood feel of our community. Cramming more people into smaller spaces starts to create over crowding. We pay a fairly decent property tax where we live and we don't mind because we like the size of our lots and the distances between our houses and the over all aesthetic of our neighborhood.

Sent from my iPhone

On Mar 8, 2019, at 10:07 AM, Sean Mcquay <smcquay73@gmail.com> wrote:

Hi this email is in regards to the development being proposed at the now lake road Marathon. I live at 13903 Edgewater drive which is right behind the proposed development and I am confused on some point.

The proposed plan for the Cluster Homes is showing that the dwelling being built at the back of the lot is 3.5 feet from my property line. 20 something feet from the side neighbors and 20 or so feet from the street According to section 1121.12 of the single family residential district chapter on cluster homes it states this.

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If this is defined in chapter 1121 then how are they going to be able to construct this development and not adhere to any of these restriction.

I would appreciate it if you could respond and let me know how this will be handled.

Thank you

Sean McQuay

Sent from my iPhone

Schwarz, Johanna

From: Todd and Gina Gibson <toddandgina@earthlink.net>
Sent: Tuesday, April 9, 2019 10:55 AM
To: Planning Dept; Nochta, Michelle; Sylvester, Bryce
Cc: john.litton@lakewoodoh.net
Subject: 13900 Lake Avenue Development

I am writing to express my opposition to the plan put forth by WXZ Development for the development of 13900 Lake Avenue (WXZ Plan).

The most striking problem with the proposed plan is that it is egregiously outside of current "Medium Density" Lot Area and Frontage Requirements and Minimum Yard Requirements for Principle Buildings as set forth in L.C.O. 1121.06 and 1121.07, respectively. All properties on Lake Avenue are required to have a 50' setback from the Building Line; the proposed homes on the WXZ Plan have an approximate 14' to 20' setback from the Building Line. These homes will be right on the sidewalk. Even worse, the setback at the rear of the property is 3'4", as opposed to 40' as required by these zoning regulations. The three properties abutting the Marathon property to the North will have a 35' tall building on their property lines: What were once sunny, open backyards will now be cast in shadow with views of a two-story building. This will most certainly cause a substantial, negative economic impact to the abutting properties.

I understand that on March 7th, the Zoning Board voted to begin the Preliminary Planned Development process and City Council later approved it. In doing so, the Marathon parcel was re-zoned Planned Development (PD) and no longer Medium Density. Clearly, the developer requested re-zoning of the parcel to replace "Medium Density" zoning protections with the looser standards of L.C.O. 1156 – Planned Development. However, in reviewing L.C.O. 1156, it is clear that "Medium Density District" standards must be maintained. Specifically, L.C.O. 1156.01 (a) states the purpose of Planned Development is ". . . to encourage orderly development and redevelopment of property, while allowing more flexibility and creativity in design to achieve high quality, integrated site planning not otherwise possible under the constraints of normal zoning requirements **without detriment to neighboring properties.**" Further, L.C.O. 1156.01 (c) states "PD Zoning specifically discourages those uses that: promote a strip center development pattern, promote idle land and over parking, and **detract from the image enhancement intentions of this district.**" In most circumstances, it would be right to assume replacing a gas station with homes would enhance the image of a district; however, that is not the case here. The gas station is underground and complies with zoning setbacks. From Lake Avenue, you don't see a gas station: you see a lawn aligned with all of the other lawns on the street and from the back you see a six foot brick wall on the rear property line. The WXZ Plan would detract from this current image by placing homes on both the front and rear property lines.

In reviewing L.C.O. 1156.02 – Location of Planned Developments, it is clear that Planned Development zoning is intended to be used to allow flexibility when developing property between two competing zoning districts, e.g. Commercial next to High Density Residential, and not to undermine the requirements within an existing district, as is proposed here. One only need look at the Lakewood Zoning Map to confirm this. To do otherwise would create a loop-hole in the zoning regulations that would call into question any real estate transaction involving property over 10,000 square feet. Buying property wholly within a Low or Medium Density District would become meaningless if your neighbor could sell to a developer and build without regard to the District requirements, as is happening in this case.

The developer, WXZ, stated at the March 7, 2019 Zoning Board meeting that they have been working on this project for two years. In reviewing past City Council meeting minutes, I found that this is not true: WXZ has been working with the

Planning and Development office to develop this property since as early as 2016 (see, City Council Meeting Minutes dated November 21, 2016). To understand the significance of this one only needs to look at the Planned Development Zoning Ordinance: Prior to March 2017, the location of Planned Development zoning (L.C.O 1156.02) was limited to Commercial, School, Multiple-Family or High Density Residential Districts. By not including Medium and Low Density Residential Districts, they were expressly excluded. On March 6, 2017, City Council, at the request of Planning & Development Director Sylvester, approved an Ordinance to “. . . to expand Chapter 1159 [sic], Planned Development, of the Zoning Code to permit planned developments in any zoning district and allowed any use so long as that use is sensitive to the former permitted use and adjacent uses.”

1156.02 LOCATION OF PLANNED DEVELOPMENTS.

(a) Any parcel or collection of parcels greater than 10,000 ft² in area may be rezoned to PD. Past use of the site and the zoning of abutting properties will be considered as part of the approval process.

Interestingly, the final ordinance is written without the specific limitation on sensitivity to former permitted use and adjacent uses. This certainly does give the impression that the change to the Planned Development ordinance was intended to benefit WXZ in its effort to develop the Marathon property.

Another import point is that the developer is basing the number of units to be built on an assumption that he can get \$600-650,000 per unit or approximately \$3,000,000. If the real estate market should suffer a decline, as has happened in recent memory, the developer would have to increase the number of units on the property to recoup his investment. I do not think this is a risk worth taking.

As for the cost to remediate the environmental issues on the property, what efforts have been made to secure grant funding or other funds to defray these costs? At the November 21, 2016 City Council meeting, Director Sylvester asked City Council "to apply to the Cuyahoga County Northcoast Brownfield Coalition Community Assessment Initiative to be considered for funding to conduct an environmental assessment of the property at 13900 Lake Avenue, which is currently a Marathon gas station site" on behalf of WXZ. However, at the April 2, 2018 City Council Meeting, when asked if such funding was used for the Marathon site, "Director Sylvester replied that this may have been discussed but did not go forward." From this, it appears there is grant funding that could be used to remediate the site, making it economically feasible to have three houses on the property, but the Building Director decided not to pursue it. That seems strange to me.

For these reasons, I ask the Planning Commission and City Council to reject any plan for the Marathon site that does not conform to the Medium Density district zoning requirements. To do otherwise would set a dangerous precedent of development contrary to existing zoning protections and threaten our unique Medium and Low density neighborhoods.

Virginia M . Gibson

13514 Lake Avenue

Schwarz, Johanna

From: Justin Smith <justin@jws.io>
Sent: Tuesday, April 9, 2019 10:15 AM
To: Sylvester, Bryce; Planning Dept
Subject: Lake Ave Marathon Station Redevelopment

Members of the Lakewood Architectural Board of Review and Lakewood Planning Department:

I am emailing in regard to my concerns about the proposed re-development of the Lake Ave Marathon Station.

My wife and I moved to Lakewood 12 years ago. At the time, it was a tough call – either Lakewood or Shaker Heights. We were in our mid 20s – me, fresh out of architecture school, and my wife, a third grade teacher. We are both very design oriented, and are passionate about the historical character present all throughout the city. If it wasn't for my wife's teaching job in a west side suburb, we may have become east-siders. Instead, we scored a beautiful bungalow on Carabel Ave, that we lovingly restored over the course of about 10 years.

Flash forward a decade, and we have outgrown our home on Carabel. After years of searching for the perfect home, and again weighing the character between Lakewood and Shaker Heights neighborhoods, we were able to purchase a house that had captured our eyes a few years prior. We knew it was in need of some love, and we knew we would be the ones to take on the restoration. The house finally went on the market, and here we are... about 6 houses down from the Marathon Station on Lake Ave. We plan to invest hundreds of thousands of dollars in this home over the next several years, and we plan on living here until we both retire (let's call it at least 25 more years). It is the house of our dreams. In the city of our dreams.

Given what we are trying to create, and what this neighborhood already is, the proposed plans for the redevelopment of the Marathon Station site feel entirely out of place. I understand that the developer feels that they need to maximize their profits, but at what cost?

Our lot, on the south side of Lake Ave, is approximately 0.3 acres. Big for Lakewood, but reasonable for this neighborhood. Compare that to our home on Carabel – a 0.1 acre lot. Given that the Marathon property is only 0.6 acres, accounting for 2 roads/driveways on either side of the property, it seems like these new homes will have lots comparable to those in our old neighborhood, not with those on Lake Ave.

Additionally, the setbacks are completely different than all other houses on in our area. The large yards on this street contribute to the prestige and beauty of Lake ave. New homes, jutting out from a packed lot will surely take away from that character, and will be a detriment to the aesthetic of our neighborhood.

As a designer, one of the things that I love about Lakewood and especially Lake Ave, are the diversity of homes. Everything here is unique, and feels completely different than the house next to it. Our home, a brick and stucco Tudor Revival, is completely different than our neighbors all brick home. The proposed designs for these new homes look cookie cutter – like something plucked from an Avon subdivision. They are completely disrespectful to the integrity and design of the homes in this neighborhood. The drawings make it seem like they will have vinyl siding (or the classic brick-on-the-front, vinyl-siding-on-the-back scheme), which is not consistent with anything else in the neighborhood.

Have any studies been conducted to look into other alternatives? Perhaps a mixed use property, with a cafe or small grocer? And what research has been done to determine that higher density housing is right for this neighborhood? I am not convinced that it is, but the brownstone condos at the intersection of Lake and W117th

are a much nicer addition to the area than what is proposed here. They are interesting, they fit in with the environment, and feel historical and respectful of their neighborhood.

This direction feels like a blemish on the Overlook Park neighborhood, and I expect the city to push the developer in a better direction, in terms of design, scale, and quality.

Thank you for taking this into consideration, and thank you for working to keep Lakewood a wonderful and beautiful place to live.

Justin Smith
13945 Lake Ave
330-620-7285

Schwarz, Johanna

From: Whitney Callahan <dublinsmom1@yahoo.com>
Sent: Wednesday, April 10, 2019 9:24 AM
To: Planning Dept; Sylvester, Bryce; City Council; Litten, John; sam.olearny@lakewoodoh.net; Anderson, David; O'Malley, Daniel; Bullock, Tom; George, Meghan; Rader, Tristan
Subject: concerns about Marathon Property Development

April 10, 2019

Dear Members of the Architectural Board of Review, Planning Commission, and City Council,

I am writing to express my concerns with the current proposed plan put forth by WXZ Development for the development of 13900 Lake Avenue. Our back yard is 3 houses over from the Marathon Station and we are 10-year residents in the neighborhood. I believe in respectful redevelopment and agree that the site would be healthier for our neighborhood with remediation. I recognize that our city needs more homes with First Floor Master Suites and appreciate that the architectural design does have attractive elements. However, as proposed the plan does not support the Planned Development Vision Goal of, "Encourag(ing) new and infill development **which is complementary to the scale and character of the surrounding residential uses.**"

The most egregious problems are the Front and Rear Set-backs of the development. Lake Avenue is a gateway to our beautiful city. It is a drive down one of Lakewood's grand boulevards with Clarence Mack homes, canopied trees and manicured front lawns. All adjacent homes have a 50' front set back as in accordance to the Building Line Map on onelakewood.com. The examples given as exceptions are not in the sight line and no where near the proposed development. One, (13506 Lake Ave) is 14 houses away on the corner of Homewood and Lake, and the other two houses are on the other side of the park, with both also on corners (14902 Lake Avenue and 1106 Kenneth). Because they are corner houses and the way the road runs, they do not impede the neighboring houses. Due to their distance from the proposed development, it is a major stretch to use them as examples of neighboring set-backs that differ from the established norm. WXZ proposes that the front two homes have only 14' and 23'8" set-backs from Lake Avenue. This means that those two houses will be in front of the adjacent homes in their entirety. Casting their neighbors in shadow and blocking the stately vision of Lake Avenue by their intrusion. The drive and walk down Lake Avenue would be forever changed and will be impeded by new construction.

The Rear Set-back is also intrusive and not within the "character" of the surrounding residences. It is not so much a building to building set-back issue, as it is a property line issue. WXZ proposes building the rear house that is only 3'4" from a brick wall that they've agreed to keep at the Planning Commission Meeting on March 7, 2019. That house would loom over the neighbor's back yard. Frankly, what person wants to spend \$650K for a home whose back window look right out at a brick wall and yard stick distance away? I can only imagine how dark the back house would be inside.

My second concern is the lack of transparency of the environmental remediation costs of the gas station. We have been told it is "expensive" and the number of buildings on the property is required to make the construction profitable. But when asked how much it will costs, the development said, "they don't exactly know." In addition, there have been no efforts to secure grant funding or other funds to defray the cost. At the November 21, 2016 City Council meeting, Director Sylvester asked City Council "to apply to the Cuyahoga County Northcoast Brownfield Coalition Community Assessment Initiative to be considered for funding to conduct an environmental assessment of the property at 13900 Lake Avenue, which is currently a Marathon

gas station site” on behalf of WXZ. However, at the April 2, 2018 City Council Meeting, when asked if such funding was used for the Marathon site, “Director Sylvester replied that this may have been discussed but it did not go forward.” From that discussion, it does appear that there may have been grant funding available that could have been used to make it economically feasible to have three houses on the property but the Building Director decided not to pursue it. That is not a good enough of a justification to the intrusion 5 houses would put on our neighborhood. The developer wants to build 5 houses (estimated to be sold for \$650K) in our premier neighborhood and he’s likely to get that for new construction, with first floor bedrooms. With a tax evaluation land purchase price of approximately \$400K, remediation and construction costs, I find it difficult to believe the project cannot be profitable with four homes built on the Marathon property.

Finally, the change of zoning from Medium Density Residential to Planned Development has never been done before in our city and is only allowable due to a change in the ordinance made March 6, 2017, after WXZ started discussions with the city about redeveloping the property sine early 2016. This development will now set a precedent and allows any real estate transaction over 10,000 square feet to be re-zoned for Planned Development. In essence our large lots could be subdivided into cluster homes if this moves forward. I urge the Architectural Board of Review, Planning Commissioner and WXZ Development to be deeply thoughtful of the consequences of cramming such a densely built development with little green space on a plot of land meant to be for three homes. I encourage you to be respectful of the “scale and characteristic” of the neighborhood, and move forward with re-development of this property that becomes an example of a positive investment in the community, rather than an intrusive development that is **“without detriment to neighboring properties” (L.C.O 1156.01 (a))** and does not **“detract from the image enhancement intentions of this district” (L.C.O. 1156.01 (c))**.

Thank you for your thoughtful consideration.

Sincerely,

Whitney Callahan
13885 Edgewater Drive
Lakewood, OH 44107

Schwarz, Johanna

From: Lori F. Petti <Lori.F.Petti@sherwin.com>
Sent: Wednesday, April 10, 2019 3:00 PM
To: Planning Dept; Sylvester, Bryce; City Council; Litten, John; sam.olearny@lakewoodoh.net; Anderson, David; O'Malley, Daniel; Bullock, Tom; George, Meghan; Rader, Tristan
Cc: mpetti34@gmail.com
Subject: Marathon Property

All-

We are writing to express our concern regarding the plan put forth by WXZ Development for 13900 Lake Avenue. We are 10-year residents of Lakewood and strong supporters of respectful development to enhance our community. We recognize the real estate gap in Lakewood's short supply of homes with first floor masters. However, as proposed the plan does not support development which is complementary to the scale and character of the surrounding residential uses.

We have 3 primary concerns:

- Potential precedent setting that will damage the aesthetic of Lakewood
- Set backs for surrounding neighbors
- Transparency of Remediation

The change of zoning from Medium Density Residential to Planned Development has never been done before in our city and is only allowable due to a change in the ordinance at the time WXZ began exploring potential development. This is an incredibly slippery and dangerous slope. We encourage this group to focus on a development that is respectful and in alignment with our community. You have the opportunity to make this development a positive example of a community investment versus an eye sore that is clearly contrary to what we all love about our city.

The front and rear set-backs of the development are also a concern. We struggle to understand giving a variance on set-backs that were put in place to maintain one of the nicest through streets in Lakewood. Additionally, the rear set back is especially intrusive for existing neighbors on Edgewater.

Finally, remediation has been described as "expensive" and that the number of homes proposed are required to make the construction profitable. But no one has quantified what "expensive" means. The developer wants to build 5 houses (estimated to be sold for \$650K) and will likely get that price. With a tax evaluation land purchase price of approximately \$400K and a vague "expensive" cost of remediation, we find it difficult to believe the project cannot be profitable with fewer homes.

Thank you for your consideration.

Mike & Lori Petti
1040 Wilbert

Lori F. Petti
Vice President, Management & Organizational Development
The Sherwin-Williams Company
P: 216.566.2309 | C: 216.849.7730 | Skype: lpetti08

ARB 4/11 mtg in re MARATHON STATION DEVELOPMENT

From: carolyn gregory (libertreeceg@yahoo.com)

To: Planning@lakewoodoh.net

Date: Thursday, April 11, 2019, 03:41 AM EDT

Although I strongly support development of the Lake Avenue Marathon Station for residential use, I request the Board consider the following ramifications of building five, large cluster homes on Marathon's three standard lots.

1) FRONTAGE (front setback)

The plan shows the two front cluster houses significantly protruding from the building line. The cluster house left of the gas station (Unit A - west) **juts out 44 feet** from the building line resulting in **only 14 feet** from house to sidewalk! The cluster house right of the station (Unit A - east) **juts out 20 feet resulting in 28 feet** from the sidewalk. (note the lot front is diagonal). The plans show that the Unit A-west house would be located almost **ENTIRELY IN FRONT** of the home next door (13910 Lake)!! On the other side, Unit A-east would extend approximately **HALF IN FRONT** (13888 Lake). **The architectural renderings (elevations) do not capture the visual effects of these building line breaches and setback disparities.** The cluster houses jut out to such degree that they do not constitute "harmonious and integrated" development in relation to the "adjacent, contiguous, and neighboring buildings and properties." (1325.03).

The aerial view shows that all the houses from the gas station west to Lakewood Park and east to Homewood and beyond are set back approx. 50 - 65 feet from the sidewalk. The proposed cluster houses will be only 14 to 28 feet from the sidewalk (the 14-28 differential is due to the diagonal lot front). The aerial view clearly shows the building line that will be breached by 43% (Unit A -east) and 74% (Unit A -west). Such is clearly not compatible with the character of Lake Avenue and thus cannot be said to comply with the Vision and governing regulations. (1101.04; 1156).

The application presents three homes in support of lesser setbacks: 1106 Kenneth (13' setback); 14902 Lake (30' setback); 13506 Lake (35' setback). However, these houses are not comparable: the first two are outside the Lake Ave streetscape, located on the other side of Lakewood Park; the third one is on a less deep but wider lot. Additionally, all three sit on corner lots which provide different visuals and pedestrian accessibility versus the cluster houses which would sit close to the sidewalk between (as well as in front of) older setback homes.

I believe these jutting-out houses will significantly interfere with the established streetscape of Lake Avenue; I do not believe the proposed location of the two Unit A houses would be compatible with the neighborhood under 1156.02.

2) REAR SETBACK

The Plan shows that the fifth house (Unit C) is located along the rear boundary line with roughly 3 feet of space graduating to about 6 feet clearance between house and brick wall (diagonal lot). This does not meet the 30 foot requirement for cluster home rear and side boundaries [1123.12(b)(5)]. Unit C's location greatly diminishes privacy, restricts circulation, obstructs views from all contiguous lots and as such would constitute a "detriment to neighboring properties" and potentially interfere with the salability and hence economic value of property, expressly disallowed under 1156.01(a).

3) DENSITY

Lakewood has the highest density of all Ohio municipalities. Five cluster houses to be built on three lots zoned for one home each is building at the rate of 8 units/acre versus the surrounding area of 4 units/acre. Does Lakewood really need more density? Lakewood's Community Vision as expressed in its zoning code is to "prevent over-crowding of lots, prevent excessive concentration of population ... protect the character and value of residential ... uses" [1101.04(b)(e)].

4) REMEDIATION

The site, having been a gas station for decades, is contaminated. However, no data have been provided regarding degree of contamination and costs of cleanup. In a press release, WXZ stated that only the soil needed replacement; no ground water is contaminated. WXZ also stated that two gas stations had used the site--were the tanks located in different areas or in the same area? These factors would impact remediation costs. Has a Performance Bond been submitted to the City, per 1156.07(a)? Will the City make it available?

CONCLUSION

After the 3/7 meeting, WXZ stated that they expected to sell the homes for \$600-650,000 each. At four units, \$2.4-2.6 million would seem sufficient to cover remediation of the site, construction of four cluster houses, and provide ample profit without the intrusiveness of five large cluster houses built on three standard lots. I do not find the design characteristics of the site are such that they cannot be achieved by substantially adhering to the base zoning of the district as required under 1156 with a PD for four units.

I propose that the developer and his architect redesign the site for four (4) cluster homes: omit Unit C (rear house) and reconfigure the garages allowing adherence to the frontal setback line of the other homes on Lake Ave while increasing the rear setback from the wall. I further propose an increase in side yard setbacks by reducing mews space between houses for better balance when the fifth unit is gone.

If Lakewood could find the money, how about a small park with indigenous fruiting trees and bushes and a community garden? Just a thought...

Thank you

Carolyn E Gregory
13888 Lake Ave

Schwarz, Johanna

From: carolyn gregory <libertreeceg@yahoo.com>
Sent: Thursday, April 11, 2019 3:42 AM
To: Planning Dept
Subject: ARB 4/11 mtg in re MARATHON STATION DEVELOPMENT

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Thank you

Carolyn E Gregory
13888 Lake Ave

Schwarz, Johanna

From: Gaynel Mellino <gmellino@me.com>
Sent: Thursday, April 11, 2019 9:49 AM
To: Whitney Callahan
Cc: Planning Dept; Sylvester, Bryce; City Council; Litten, John; sam.olearny@lakewoodoh.net; Anderson, David; O'Malley, Daniel; Bullock, Tom; George, Meghan; Rader, Tristan
Subject: Re: concerns about Marathon Property Development

Bryce, please forward to the necessary parties. Thank you.

Dear Members of the Planning Commission, City Council and ARB, I would like to add my support to the email below from Whitney Callahan and to express my own concerns about setting precedents.

I whole heartedly agree that the biggest problem is front and rear setbacks. Both Committees must consider the long range development of larger properties within Overlook Park and all of Lakewood, especially along the lake shore and Lake Avenue. I have a number of properties around me that are ripe for possible future development and do not want the precedent of high density and non existent setbacks to be the norm.

I agree with Ms. Callahan that the shorter setbacks of some homes on Lake Avenue differ in that they are corner lots with a large amount of land surrounding them on one side or another. Which is not the case on the Marathon property. And members should consider how they would like a two story building looming behind them within 3 1/2 feet of their property line. There is a vast difference between a garage right there and a home with windows looking right into your property.

Considering the prices that homes are going for in our neighborhood within the last 2 years, and the high desirability of first floor housing, I anticipate those homes going very very quickly. Rumor has it that the house on parkside listed last week at \$639,000 is under contract. But more importantly, the Marathon property is a prime piece of land that has enormous value which is being dismissed because of soil contamination issues. There is NO reason the surrounding properties should bear the burden of the remediation by having their property values decreased and neighborhood character changed. And in this market, I don't feel its even necessary.

I have always considered Lake Avenue and Edgewater Drive neighborhoods to set the tone for the City as to a touch of grandness and allure that trickles down to all aspects of living in Lakewood. It is up to committees such as yourself to maintain those standards.

Thank you for your service. Gaynel Mellino 13908 Edgewater Dr.

Sent from my iPad

On Apr 10, 2019, at 9:23 AM, Whitney Callahan <dublinsmom1@yahoo.com> wrote:

April 10, 2019

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Sincerely,

Whitney Callahan
13885 Edgewater Drive
Lakewood, OH 44107

Schwarz, Johanna

From: Sylvester, Bryce
Sent: Thursday, April 11, 2019 9:54 AM
To: Gaynel Mellino; Whitney Callahan
Cc: Planning Dept; City Council; Litten, John; Anderson, David; O'Malley, Daniel; Bullock, Tom; George, Meghan; Rader, Tristan; Summers, Mike; O'Leary, Sam; Harnocz, Alex; Milius, Katelyn
Subject: RE: concerns about Marathon Property Development

Thank you Gaynel, and Whitney for sharing these comments with us. I wanted to reach out to you now to confirm that these comments will be shared with the ABR and Planning Commission.

I appreciate your insight and you taking the time to share this input. I would welcome the opportunity to meet with you in the coming weeks to have a discussion as well.

Thanks,
Bryce

Bryce Sylvester, AICP
Director of Planning and Development
City of Lakewood
216-529-6635
bryce.sylvester@lakewoodoh.net

From: Gaynel Mellino [mailto:gmellino@me.com]
Sent: Thursday, April 11, 2019 9:49 AM
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Dear Members of the Architectural Board of Review, Planning Commission, and City Council,

I am writing to express my concerns with the current proposed plan put forth by WXZ Development for the development of 13900 Lake Avenue. Our back yard is 3 houses over from the Marathon Station and we are 10-year residents in the neighborhood. I believe in respectful redevelopment and agree that the site would be healthier for our neighborhood with remediation. I recognize that our city needs more homes with First Floor Master Suites and appreciate that the architectural design does have attractive elements. However, as proposed the plan does not support the Planned Development Vision Goal of, "Encourag(ing) new and infill development **which is complementary to the scale and character of the surrounding residential uses.**"

The most egregious problems are the Front and Rear Set-backs of the development. Lake Avenue is a gateway to our beautiful city. It is a drive down one of Lakewood's grand boulevards with Clarence Mack homes, canopied trees and manicured front lawns. All adjacent homes have a 50' front set back as in accordance to the Building Line Map on onelakewood.com. The examples given as exceptions are not in the sight line and no where near the proposed development. One, (13506 Lake Ave) is 14 houses away on the corner of Homewood and Lake, and the other two houses are on the other side of the park, with both also on corners (14902 Lake Avenue and 1106 Kenneth). Because they are corner houses and the way the road runs, they do not impede the neighboring houses. Due to their distance from the proposed development, it is a major stretch to use them as examples of neighboring set-backs that differ from the established norm. WXZ proposes that the front two homes have only 14' and 23'8" set-backs from Lake Avenue. This means that those two houses will be in front of the adjacent homes in their entirety. Casting their neighbors in shadow and blocking the stately vision of Lake Avenue by their intrusion. The drive and walk down Lake Avenue would be forever changed and will be impeded by new construction.

The Rear Set-back is also intrusive and not within the “character” of the surrounding residences. It is not so much a building to building set-back issue, as it is a property line issue. WXZ proposes building the rear house that is only 3’4” from a brick wall that they’ve agreed to keep at the Planning Commission Meeting on March 7, 2019. That house would loom over the neighbor’s back yard. Frankly, what person wants to spend \$650K for a home whose back window look right out at a brick wall and yard stick distance away? I can only imagine how dark the back house would be inside.

My second concern is the lack of transparency of the environmental remediation costs of the gas station. We have been told it is “expensive” and the number of buildings on the property is required to make the construction profitable. But when asked how much it will costs, the development said, “they don’t exactly know.” In addition, there have been no efforts to secure grant funding or other funds to defray the cost. At the November 21, 2016 City Council meeting, Director Sylvester asked City Council “to apply to the Cuyahoga County Northcoast Brownfield Coalition Community Assessment Initiative to be considered for funding to conduct an environmental assessment of the property at 13900 Lake Avenue, which is currently a Marathon gas station site” on behalf of WXZ. However, at the April 2, 2018 City Council Meeting, when asked if such funding was used for the Marathon site, “Director Sylvester replied that this may have been discussed but it did not go forward.” From that discussion, it does appear that there may have been grant funding available that could have been used to make it economically feasible to have three houses on the property but the Building Director decided not to pursue it. That is not a good enough of a justification to the intrusion 5 houses would put on our neighborhood. The developer wants to build 5 houses (estimated to be sold for \$650K) in our premier neighborhood and he’s likely to get that for new construction, with first floor bedrooms. With a tax evaluation land purchase price of approximately \$400K, remediation and construction costs, I find it difficult to believe the project cannot be profitable with four homes built on the Marathon property.

Finally, the change of zoning from Medium Density Residential to Planned Development has never been done before in our city and is only allowable due to a change in the ordinance made March 6, 2017, after WXZ started discussions with the city about redeveloping the property sine early 2016. This development will now set a precedent and allows any real estate transaction over 10,000 square feet to be re-zoned for Planned Development. In essence our large lots could be subdivided into cluster homes if this moves forward. I urge the Architectural Board of Review, Planning Commissioner and WXZ Development to be deeply thoughtful of the consequences of cramming such a densely built development with little green space on a plot of land meant to be for three homes. I encourage you to be respectful of the “scale and characteristic” of the neighborhood, and move forward with re-development of this property that becomes an example of a positive investment in the community, rather than an intrusive development that is “**without detriment to neighboring properties**” (L.C.O 1156.01 (a) and does not “**detract from the image enhancement intentions of this district**” (L.C.O. 1156.01 (c). Thank you for your thoughtful consideration.

Sincerely,

Whitney Callahan
13885 Edgewater Drive
Lakewood, OH 44107

Lakewood's mission in the application of Lean Six Sigma principles is to provide exceptional customer service that meets or exceeds our citizens' expectations and maintains a vibrant, competitive community.

Schwarz, Johanna

From: Sylvester, Bryce
Sent: Thursday, April 11, 2019 9:58 AM
To: Todd and Gina Gibson; Planning Dept; Nochta, Michelle
Cc: Litten, John; Harnocz, Alex; Milius, Katelyn; Summers, Mike
Subject: RE: 13900 Lake Avenue Development

Virginia –

Thank you for sharing these comments with us. I wanted to reach out to you now to confirm that these comments will be shared with the ABR and Planning Commission.

I appreciate your insight and you taking the time to share this input. I would welcome the opportunity to talk or meet with you in the coming weeks to have a discussion as well if you're open to it.

Thanks,

Bryce

Bryce Sylvester, AICP
Director of Planning and Development
City of Lakewood
216-529-6635
bryce.sylvester@lakewoodoh.net

From: Todd and Gina Gibson [mailto:toddandgina@earthlink.net]
Sent: Tuesday, April 9, 2019 10:55 AM
To: Planning Dept; Nochta, Michelle; Sylvester, Bryce
Cc: john.litton@lakewoodoh.net
Subject: 13900 Lake Avenue Development

I am writing to express my opposition to the plan put forth by WXZ Development for the development of 13900 Lake Avenue (WXZ Plan).

The most striking problem with the proposed plan is that it is egregiously outside of current "Medium Density" Lot Area and Frontage Requirements and Minimum Yard Requirements for Principle Buildings as set forth in L.C.O. 1121.06 and 1121.07, respectively. All properties on Lake Avenue are required to have a 50' setback from the Building Line; the proposed homes on the WXZ Plan have an approximate 14' to 20' setback from the Building Line. These homes will be right on the sidewalk. Even worse, the setback at the rear of the property is 3'4", as opposed to 40' as required by these zoning regulations. The three properties abutting the Marathon property to the North will have a 35' tall building on their property lines: What were once sunny, open backyards will now be cast in shadow with views of a two-story building. This will most certainly cause a substantial, negative economic impact to the abutting properties.

I understand that on March 7th, the Zoning Board voted to begin the Preliminary Planned Development process and City Council later approved it. In doing so, the Marathon parcel was re-zoned Planned Development (PD) and no longer Medium Density. Clearly, the developer requested re-zoning of the parcel to replace “Medium Density” zoning protections with the looser standards of L.C.O. 1156 – Planned Development. However, in reviewing L.C.O. 1156, it is clear that “Medium Density District” standards must be maintained. Specifically, L.C.O. 1156.01 (a) states the purpose of Planned Development is “. . . to encourage orderly development and redevelopment of property, while allowing more flexibility and creativity in design to achieve high quality, integrated site planning not otherwise possible under the constraints of normal zoning requirements **without detriment to neighboring properties.**” Further, L.C.O. 1156.01 (c) states “PD Zoning specifically discourages those uses that: promote a strip center development pattern, promote idle land and over parking, and **detract from the image enhancement intentions of this district.**” In most circumstances, it would be right to assume replacing a gas station with homes would enhance the image of a district; however, that is not the case here. The gas station is underground and complies with zoning setbacks. From Lake Avenue, you don’t see a gas station: you see a lawn aligned with all of the other lawns on the street and from the back you see a six foot brick wall on the rear property line. The WXZ Plan would detract from this current image by placing homes on both the front and rear property lines.

In reviewing L.C.O. 1156.02 – Location of Planned Developments, it is clear that Planned Development zoning is intended to be used to allow flexibility when developing property between two competing zoning districts, e.g. Commercial next to High Density Residential, and not to undermine the requirements within an existing district, as is proposed here. One only need look at the Lakewood Zoning Map to confirm this. To do otherwise would create a loop-hole in the zoning regulations that would call into question any real estate transaction involving property over 10,000 square feet. Buying property wholly within a Low or Medium Density District would become meaningless if your neighbor could sell to a developer and build without regard to the District requirements, as is happening in this case.

The developer, WXZ, stated at the March 7, 2019 Zoning Board meeting that they have been working on this project for two years. In reviewing past City Council meeting minutes, I found that this is not true: WXZ has been working with the Planning and Development office to develop this property since as early as 2016 (see, City Council Meeting Minutes dated November 21, 2016). To understand the significance of this one only needs to look at the Planned Development Zoning Ordinance: Prior to March 2017, the location of Planned Development zoning (L.C.O. 1156.02) was limited to Commercial, School, Multiple-Family or High Density Residential Districts. By not including Medium and Low Density Residential Districts, they were expressly excluded. On March 6, 2017, City Council, at the request of Planning & Development Director Sylvester, approved an Ordinance to “. . . to expand Chapter 1159 [sic], Planned Development, of the Zoning Code to permit planned developments in any zoning district and allowed any use so long as that use is sensitive to the former permitted use and adjacent uses.”

1156.02 LOCATION OF PLANNED DEVELOPMENTS.

(a) Any parcel or collection of parcels greater than 10,000 ft² in area may be rezoned to PD. Past use of the site and the zoning of abutting properties will be considered as part of the approval process.

Interestingly, the final ordinance is written without the specific limitation on sensitivity to former permitted use and adjacent uses. This certainly does give the impression that the change to the Planned Development ordinance was intended to benefit WXZ in its effort to develop the Marathon property.

Another import point is that the developer is basing the number of units to be built on an assumption that he can get \$600-650,000 per unit or approximately \$3,000,000. If the real estate market should suffer a decline, as has happened in recent memory, the developer would have to increase the number of units on the property to recoup his investment. I do not think this is a risk worth taking.

As for the cost to remediate the environmental issues on the property, what efforts have been made to secure grant funding or other funds to defray these costs? At the November 21, 2016 City Council meeting, Director Sylvester asked City Council "to apply to the Cuyahoga County Northcoast Brownfield Coalition Community Assessment Initiative to be considered for funding to conduct an environmental assessment of the property at 13900 Lake Avenue, which is currently a Marathon gas station site" on behalf of WXZ. However, at the April 2, 2018 City Council Meeting, when asked if such funding was used for the Marathon site, "Director Sylvester replied that this may have been discussed but did not go forward." From this, it appears there is grant funding that could be used to remediate the site, making it economically feasible to have three houses on the property, but the Building Director decided not to pursue it. That seems strange to me.

For these reasons, I ask the Planning Commission and City Council to reject any plan for the Marathon site that does not conform to the Medium Density district zoning requirements. To do otherwise would set a dangerous precedent of development contrary to existing zoning protections and threaten our unique Medium and Low density neighborhoods.

Virginia M . Gibson

13514 Lake Avenue

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Schwarz, Johanna

From: Bullock, Tom
Sent: Thursday, April 11, 2019 10:15 AM
To: Steve Mariakis
Cc: Planning Dept; Milius, Katelyn; Summers, Mike; O'Leary, Sam; Anderson, David; Litten, John; Rader, Tristan; George, Meghan; Dan.OMalley@lakewoodoh.net; Sylvester, Bryce
Subject: Re: Parkwood Project

Hi Steve,

In response to these points:

"It is my hope that the planning commission votes to NOT move forward wit this project as is"

I think we all agree additional changes are needed. We're not at the end of discussions — we're at half time. More changes could be negotiated—we'll see.

"...OR with a new proposal with a loop hole of mixed used proposal to circumnavigate the zoning."

This is not a loophole, which is the entire point. It's use by right—just as McDonald's was a use-by-right use for the former Detroit Theater.

At the moment, the City is in negotiations via Planned Development, which provides additional flexibility to the developer in exchange for additional control from the City. It can be a productive path for both parties, depending on the circumstances: both agree to additional features in exchange for additional quality, from a mutually satisfactory position.

If the Planned Development route doesn't result in a mutually-satisfactory agreement, the developer could pursue approvals via use by right. Will they? I have no idea. If they did, however, the community may have fewer tools to negotiate for quality and neighborhood impacts.

That's why I think we are best served by first exploring what we can achieve via the Planned Development route. We'll see how it shakes out.

On Apr 11, 2019, at 9:56 AM, Steve Mariakis <stevemariakis@gmail.com> wrote:

It is my hope that the planning commission votes to NOT move forward wit this project as is OR with a new proposal with a loop hole of mixed used proposal to circumnavigate the zoning.

Schwarz, Johanna

From: Mary Ann Dombrowiak <dededombro@sbcglobal.net>
Sent: Monday, April 15, 2019 2:08 AM
To: Planning Dept
Subject: Marathon Station

Dear Members of the Architectural Board of Review, Planning Commission, and City Council,

I am sending a copy of Whitney Callahan's letter to you concerning the Marathon Station Development. The letter expresses my thoughts on the project exactly and I could not have said it any better.

I would hope the Board, Commission, and Council will seriously consider the visual impact on a premier Lakewood neighborhood. The current homes setbacks give a gracious appearance as one travels Lake Ave. Maintaining the character of our neighborhood is just as important with new construction as it is for the older homes that have created it. WXZ Development will be destroying the very same character that makes it want to build on Lake Ave in the first place. Please keep the setbacks that are in place for the neighborhood.

Respectfully,

Mary Ann Dombrowiak

13843 Lake Ave.

Lakewood< Ohio 44107

Dear Members of the Architectural Board of Review, Planning Commission, and City Council,

I am writing to express my concerns with the current proposed plan put forth by WXZ Development for the development of 13900 Lake Avenue. Our back yard is 3 houses over from the Marathon Station and we are 10-year residents in the neighborhood. I believe in respectful redevelopment and agree that the site would be healthier for our neighborhood with remediation. I recognize that our city needs more homes with First Floor Master Suites and appreciate that the architectural design does have attractive elements. However, as proposed the plan does not support the Planned Development Vision Goal of, "Encourag(ing) new and infill development **which is complementary to the scale and character of the surrounding residential uses.**"

The most egregious problems are the Front and Rear Set-backs of the development. Lake Avenue is a gateway to our beautiful city. It is a drive down one of Lakewood's grand boulevards with Clarence Mack homes, canopied trees and manicured front lawns. All adjacent homes have a 50' front set back as in accordance to the Building Line Map on onelakewood.com. The examples given as exceptions are not in the sight line and no where near the proposed development. One, (13506 Lake Ave) is 14 houses away on the corner of Homewood and Lake, and the other two houses are on the other side of the park, with both also on corners (14902 Lake Avenue and 1106 Kenneth). Because they are corner houses and the way the road runs, they do not impede the neighboring houses. Due to their distance from

the proposed development, it is a major stretch to use them as examples of neighboring set-backs that differ from the established norm. WXZ proposes that the front two homes have only 14' and 23'8" set-backs from Lake Avenue. This means that those two houses will be in front of the adjacent homes in their entirety. Casting their neighbors in shadow and blocking the stately vision of Lake Avenue by their intrusion. The drive and walk down Lake Avenue would be forever changed and will be impeded by new construction.

The Rear Set-back is also intrusive and not within the "character" of the surrounding residences. It is not so much a building to building set-back issue, as it is a property line issue. WXZ proposes building the rear house that is only 3'4" from a brick wall that they've agreed to keep at the Planning Commission Meeting on March 7, 2019. That house would loom over the neighbor's back yard. Frankly, what person wants to spend \$650K for a home whose back window look right out at a brick wall and yard stick distance away? I can only imagine how dark the back house would be inside.

My second concern is the lack of transparency of the environmental remediation costs of the gas station. We have been told it is "expensive" and the number of buildings on the property is required to make the construction profitable. But when asked how much it will cost, the development said, "they don't exactly know." In addition, there have been no efforts to secure grant funding or other funds to defray the cost. At the November 21, 2016 City Council meeting, Director Sylvester asked City Council "to apply to the Cuyahoga County Northcoast Brownfield Coalition Community Assessment Initiative to be considered for funding to conduct an environmental assessment of the property at 13900 Lake Avenue, which is currently a Marathon gas station site" on behalf of WXZ. However, at the April 2, 2018 City Council Meeting, when asked if such funding was used for the Marathon site, "Director Sylvester replied that this may have been discussed but it did not go forward." From that discussion, it does appear that there may have been grant funding available that could have been used to make it economically feasible to have three houses on the property but the Building Director decided not to pursue it. That is not a good enough of a justification to the intrusion 5 houses would put on our neighborhood. The developer wants to build 5 houses (estimated to be sold for \$650K) in our premier neighborhood and he's likely to get that for new construction, with first floor bedrooms. With a tax evaluation land purchase price of approximately \$400K, remediation and construction costs, I find it difficult to believe the project cannot be profitable with four homes built on the Marathon property.

Finally, the change of zoning from Medium Density Residential to Planned Development has never been done before in our city and is only allowable due to a change in the ordinance made March 6, 2017, after WXZ started discussions with the city about redeveloping the property since early 2016. This development will now set a precedent and allows any real estate transaction over 10,000 square feet to be re-zoned for Planned Development. In essence our large lots could be subdivided into cluster homes if this moves forward. I urge the Architectural Board of Review, Planning Commissioner and WXZ Development to be deeply thoughtful of the consequences of cramming such a densely built development with little green space on a plot of land meant to be for three homes. I encourage you to be respectful of the "scale and characteristic" of the neighborhood, and move forward with re-development of this property that becomes an example of a positive investment in the community, rather than an intrusive development that is **"without detriment to neighboring properties" (L.C.O 1156.01 (a))** and does not **"detract from the image enhancement intentions of this district" (L.C.O. 1156.01 (c))**. Thank you for your thoughtful consideration.

Sincerely,

Whitney Callahan
13885 Edgewater Drive
Lakewood, OH 44107

Schwarz, Johanna

From: Tony Gorris <tgorris@yahoo.com>
Sent: Sunday, April 28, 2019 12:45 PM
To: Planning Dept; ketelyn.milius@lakewoodoh.net; Sylvester, Bryce; City Council; Litten, John
Subject: 13900 Lake Avenue

City of Lakewood Planning Commission and City Council:

My name is Tony Gorris and I am a homeowner at 13991 Edgewater Drive approximately one quarter mile from the proposed development.

While I had no issues with the former Marathon Gas station and found them to be nice to deal with and good neighbors, I believe the eventual removal of the gas tanks and change in use of the property is of benefit to the neighborhood.

With that said, I have concerns about the approval of the planned development as submitted. In short, my concerns have to do with the setbacks. I feel the way in which the proposed five homes will encroach on all borders of the property is inappropriate. Along Lake, from Cove to Webb, there is a pretty harmonious set back which is pleasant, appealing and consistent to the eyes. I believe the proposed development will jut out in such a random and illogical manner as to create an eyesore altering the appeal of the area. I believe the proposal is more appropriate for a mixed use area and not a purely residential area.

I understand that one of the arguments in favor of the proposal is the cost of clean-up. While I would normally not be concerned with costs or expected profits from a development, I am sympathetic to the cost of environmental clean-up for this location (and very much in favor of environmental clean-up at this location). However I believe that any development at this site needs to respect and maintain the harmony of the neighborhood. I do not believe this proposal does that and for that reason I request that the application be denied until suitable setbacks can be achieved.

Thank you for your consideration.

Schwarz, Johanna

From: Jeanine Gergel <ninaraeg@gmail.com>
Sent: Monday, April 29, 2019 5:46 PM
To: Planning Dept; Mayor's Office; Litten, John; George, Meghan; Rader, Tristan; O'Leary, Sam
Cc: Adam Jusko
Subject: Comments on Proposed Marathon Station Redevelopment

Dear Mayor Summers, Members of the Lakewood Planning Commission and City Council,

We are writing to express our concerns about the proposed redevelopment of the Marathon Station property on Lake Ave. Our concerns have to do with (1) the proposed rezoning of the property; (2) the configuration of the proposed residences to be built on the site; and (3) the notice (or lack thereof) to neighbors nearby like us.

Proposed Rezoning

We do not support the proposed rezoning of the property from medium density residential to planned development as we are concerned about the impact of the congestion and traffic arising from the proposed 5 residences (on a 3 lot site) on nearby neighbors.

Configuration of the Proposed Residences

We do not believe the setbacks in the current plans are at all in keeping with the look and feel of the rest of the neighborhood. We imagine there are some financial reasons 5 residences are being proposed on a site that currently allows for only 3, but we don't believe current zoning, which protects property owners in the surrounding neighborhood, should be abandoned in favor of the profit interests of a private entity. While we understand the style of the home being proposed may be highly desirable in Lakewood, we would feel much more comfortable with more setback and less density. Perhaps 4 units on the site is a compromise we could all live with?

Notice

We are surprised that we did not receive any direct notification from the city about the proposed rezoning or proposed development when we live just 3 doors away. We get notices regularly for much more minor plans being made by our neighbors (such as the new driveway being put in across the street) but received no notice about the Marathon property plans. Perhaps we live just far away enough to make providing notice not a legal obligation, but to us not providing notice on this very significant project just 3 doors down feels like a breach of duty by the city.

We urge you not to approve the plans as currently proposed and to consider modifying the plans to allow for more setback and less density on the 3-lot site. We also ask for the courtesy of notice for future projects so close to our home.

Thank you,

Jeanine Gergel and Adam Jusko

13930 Lake Ave.

Schwarz, Johanna

From: George Quil <quilg@cox.net>
Sent: Tuesday, April 30, 2019 10:44 PM
To: Anderson, David
Cc: Mayor's Office; Planning Dept; Sylvester, Bryce; Litten, John; George, Meghan; Rader, Tristan; Bullock, Tom; O'Leary, Sam; O'Malley, Daniel
Subject: Re: 13900 Lake Avenue

Dear Mr. Anderson,
Thank you for your response. Your comment regarding "one key component" raises an interesting scenario. What confuses me is my understanding the Marathon station was operating on a "one off" exception basis and the site is actually designated as a "Single-family Medium Density District".

This topic is new to me and I certainly could be misinformed. Do you know which is correct?

I understand this will be an agenda item for the Planning Commission meeting this Thursday, May 2. Hopefully some clarity will come out of the meeting.

Again, I appreciate your response, thank you.

Best to you,

George W. Quil

On Apr 30, 2019, at 4:41 PM, Anderson, David <David.Anderson@lakewoodoh.net> wrote:

Mr. Quil - Thank you for sharing your view on this matter. Your time, attention and thoughts are appreciated and I believe you are on point with regard to a number of aspects. That said, I wanted to share one key component that I believe has not gotten much attention.

From a zoning perspective, the Marathon existed as an allowed non conforming use. Obviously, the surrounding area is residential and the Marathon parcels are not. Consider the reality that the current owner could sell to any type of developer - residential or retail. A move to residential requires action by City Council (change in zoning) whereas a retail development would not. The current owner will likely sell to a highest bidder which, right now, involves the residential plan. There is a possibility that the prospective buyer (residential) would not buy if ordered to curtail the basic plan before the Planning Commission's approval (loss of ROI). Then what, Mr. Tire or a retailer? Either of which would be an allowed use but certainly not in concert with the Community Vision.

Council cannot unilaterally change the zoning without the consent of the current owner (just like we couldn't change the zoning of your neighborhood unilaterally). Property owners have rights. Further, any vote on a zoning change would only take place after a Planning Commission approval for the final plan.

The zoning issue and allowed nonconforming use adds a degree of risk as to what type of development would be on these parcels for the next 100 years.

I would certainly welcome any additional thoughtful comments and thanks, again.

Sent from my iPad

On Apr 30, 2019, at 12:51 PM, George Quil <quilg@cox.net> wrote:

Dear Mayor Summers, Members of the Lakewood Planning Commission and City Council,

The purpose of this writing is to express my concerns regarding the proposed planned development of the Marathon site – 13900 Lake Avenue.

I have always felt Lake Avenue to be the premiere street of Lakewood. There is always a great sense of pride when I travel west on Lake Avenue, off the Shoreway, traveling through Cleveland, crossing over West 117th into Lakewood. There is that “cozy, homey feeling” of what Lakewood is all about. There is no question as to the quality of the road and the overall upkeep. Once past our famed Gold Coast, the mainly residential portion maintains a flow of beautiful homes and well maintained yards which is most appealing to the residents and many visitors who enjoy a wonderful walk to Lakewood Park. The setback of the existing homes provides an openness and balance.

Yes, there are a few exceptions, but again do to adequate setback we have been able to maintain a street which has a wonderful look and appeal. Even the existing Marathon station fits in because of the distance of the setback to the retaining wall and the openness due to the spacious driveways. This would be dramatically changed with the proposed project.

Like many, I am in favor of some sort of neighborhood development, but I am hoping that whatever is finally decided, will fit within the Lakewood Community Vision “...to preserve the historic character of residential neighborhoods...to encourage...infill development which is complementary to the scale and character of surrounding residential uses...” Why would you not apply this vision to one of Lakewood’s most beautiful streets?

Over the years the past leaders of Lakewood have spent much time developing the “Vision” of our community. It is unclear to me why you, our current leaders would not follow its intent.

I am opposed to the current plan and would urge you to only approve a plan consisting of adequate setback which would be consistent to the adjacent properties. We need to maintain the flow, balance and beauty existing today.

Thank you for your consideration.

George W. Quil

13468 Lake Avenue

Schwarz, Johanna

From: Sylvester, Bryce
Sent: Wednesday, May 1, 2019 10:08 AM
To: George Quil
Cc: Anderson, David; Mayor's Office; Planning Dept; Litten, John; George, Meghan; Rader, Tristan; Bullock, Tom; O'Leary, Sam; O'Malley, Daniel; Summers, Mike
Subject: Re: 13900 Lake Avenue

George -

My name is Bryce Sylvester. I'm the Director of Planning at the city. I think it may be helpful to talk over the phone. I can help talk through some of your questions. I'd be happy to do so today or tomorrow if you're available.

Thanks,
Bryce

--

Bryce Sylvester
Director of Planning
City of Lakewood
216-529-6635
Bryce.Sylvester@lakewoodoh.net

On Apr 30, 2019, at 10:42 PM, George Quil <quilg@cox.net> wrote:

Dear Mr. Anderson,
Thank you for your response. Your comment regarding "one key component" raises an interesting scenario. What confuses me is my understanding the Marathon station was operating on a "one off" exception basis and the site is actually designated as a "Single-family Medium Density District".

This topic is new to me and I certainly could be misinformed. Do you know which is correct?

I understand this will be an agenda item for the Planning Commission meeting this Thursday, May 2. Hopefully some clarity will come out of the meeting.

Again, I appreciate your response, thank you.

Best to you,

George W. Quil

Schwarz, Johanna

From: Sylvester, Bryce
Sent: Wednesday, May 1, 2019 2:59 PM
To: Tony Gorris; Planning Dept; City Council; Litten, John
Cc: Milius, Katelyn
Subject: RE: 13900 Lake Avenue

Tony –

Thank you for writing this email. I'm writing to confirm that this will be shared with the Planning Commission via email and in hard copy form.

Thanks,
Bryce

Bryce Sylvester, AICP
Director of Planning and Development
City of Lakewood
216-529-6635
bryce.sylvester@lakewoodoh.net

From: Tony Gorris [mailto:tgorris@yahoo.com]
Sent: Sunday, April 28, 2019 12:45 PM
To: Planning Dept; ketelyn.milius@lakewoodoh.net; Sylvester, Bryce; City Council; Litten, John
Subject: 13900 Lake Avenue

City of Lakewood Planning Commission and City Council:

My name is Tony Gorris and I am a homeowner at 13991 Edgewater Drive approximately one quarter mile from the proposed development.

While I had no issues with the former Marathon Gas station and found them to be nice to deal with and good neighbors, I believe the eventual removal of the gas tanks and change in use of the property is of benefit to the neighborhood.

With that said, I have concerns about the approval of the planned development as submitted. In short, my concerns have to do with the setbacks. I feel the way in which the proposed five homes will encroach on all borders of the property is inappropriate. Along Lake, from Cove to Webb, there is a pretty harmonious set back which is pleasant, appealing and consistent to the eyes. I believe the proposed development will jut out in such a random and illogical manner as to create an eyesore altering the appeal of the area. I believe the proposal is more appropriate for a mixed use area and not a purely residential area.

I understand that one of the arguments in favor of the proposal is the cost of clean-up. While I would normally not be concerned with costs or expected profits from a development, I am sympathetic to the cost of environmental clean-up for this location (and very much in favor of environmental clean-up at this location). However I believe that any development at this site needs to respect and maintain the harmony of the neighborhood. I do not believe this proposal does that and for that reason I request that the application be denied until suitable setbacks can be achieved.

Thank you for your consideration.

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Schwarz, Johanna

From: Sylvester, Bryce
Sent: Wednesday, May 1, 2019 3:16 PM
To: Justin Smith; Planning Dept
Cc: Milius, Katelyn; Summers, Mike
Subject: RE: Lake Ave Marathon Station Redevelopment

Justin –

Thanks for writing and sending the below email. I apologize for not getting you a response sooner. I simply wanted to confirm that this email was shared with the ABR and has been shared with the Planning Commission electronically and in hard copy form.

If you have any time to talk over the phone on Thursday 5/2 I'd welcome the opportunity to talk.

Thanks again, and have a nice night.

Bryce

Bryce Sylvester, AICP
Director of Planning and Development
City of Lakewood
216-529-6635
bryce.sylvester@lakewoodoh.net

From: Justin Smith [mailto:justin@jws.io]
Sent: Tuesday, April 9, 2019 10:15 AM
To: Sylvester, Bryce; Planning Dept
Subject: Lake Ave Marathon Station Redevelopment

Members of the Lakewood Architectural Board of Review and Lakewood Planning Department:

I am emailing in regard to my concerns about the proposed re-development of the Lake Ave Marathon Station.

My wife and I moved to Lakewood 12 years ago. At the time, it was a tough call – either Lakewood or Shaker Heights. We were in our mid 20s – me, fresh out of architecture school, and my wife, a third grade teacher. We are both very design oriented, and are passionate about the historical character present all throughout the city. If it wasn't for my wife's teaching job in a west side suburb, we may have become east-siders. Instead, we scored a beautiful bungalow on Carabel Ave, that we lovingly restored over the course of about 10 years.

Flash forward a decade, and we have outgrown our home on Carabel. After years of searching for the perfect home, and again weighing the character between Lakewood and Shaker Heights neighborhoods, we were able to purchase a house that had captured our eyes a few years prior. We knew it was in need of some love, and we knew we would be the ones to take on the restoration. The house finally went on the market, and here we are... about 6 houses down from the Marathon Station on Lake Ave. We plan to invest hundreds of thousands of dollars in this home over the next several years, and we plan on living here until we both retire (let's call it at least 25 more years). It is the house of our dreams. In the city of our dreams.

Given what we are trying to create, and what this neighborhood already is, the proposed plans for the redevelopment of the Marathon Station site feel entirely out of place. I understand that the developer feels that they need to maximize their profits, but at what cost?

Our lot, on the south side of Lake Ave, is approximately 0.3 acres. Big for Lakewood, but reasonable for this neighborhood. Compare that to our home on Carabel – a 0.1 acre lot. Given that the Marathon property is only 0.6 acres, accounting for 2 roads/driveways on either side of the property, it seems like these new homes will have lots comparable to those in our old neighborhood, not with those on Lake Ave.

Additionally, the setbacks are completely different than all other houses on in our area. The large yards on this street contribute to the prestige and beauty of Lake ave. New homes, jutting out from a packed lot will surely take away from that character, and will be a detriment to the aesthetic of our neighborhood.

As a designer, one of the things that I love about Lakewood and especially Lake Ave, are the diversity of homes. Everything here is unique, and feels completely different than the house next to it. Our home, a brick and stucco Tudor Revival, is completely different than our neighbors all brick home. The proposed designs for these new homes look cookie cutter – like something plucked from an Avon subdivision. They are completely disrespectful to the integrity and design of the homes in this neighborhood. The drawings make it seem like they will have vinyl siding (or the classic brick-on-the-front, vinyl-siding-on-the-back scheme), which is not consistent with anything else in the neighborhood.

Have any studies been conducted to look into other alternatives? Perhaps a mixed use property, with a cafe or small grocer? And what research has been done to determine that higher density housing is right for this neighborhood? I am not convinced that it is, but the brownstone condos at the intersection of Lake and W117th are a much nicer addition to the area than what is proposed here. They are interesting, they fit in with the environment, and feel historical and respectful of their neighborhood.

This direction feels like a blemish on the Overlook Park neighborhood, and I expect the city to push the developer in a better direction, in terms of design, scale, and quality.

Thank you for taking this into consideration, and thank you for working to keep Lakewood a wonderful and beautiful place to live.

Justin Smith
13945 Lake Ave
330-620-7285

Lakewood's mission in the application of Lean Six Sigma principles is to provide exceptional customer service that meets or exceeds our citizens' expectations and maintains a vibrant, competitive community.

Schwarz, Johanna

From: Sylvester, Bryce
Sent: Wednesday, May 1, 2019 3:21 PM
To: Planning Dept; Harnocz, Alex; Milius, Katelyn; ninaraeg@gmail.com
Cc: Litten, John; George, Meghan; Rader, Tristan; Summers, Mike
Subject: RE: Comments on Proposed Marathon Station Redevelopment

Jeanine –

Thanks for sending the below email. I'm writing to confirm that this will be shared with the Planning Commission via email and in hard copy.

I'm also wondering if you may have time for a phone call on Thursday 5/2? We can talk through your comments below and I can help to address questions and concerns you have.

Thanks,
Bryce

Bryce Sylvester, AICP
Director of Planning and Development
City of Lakewood
216-529-6635
bryce.sylvester@lakewoodoh.net

From: Planning Dept
Sent: Tuesday, April 30, 2019 8:27 AM
To: Sylvester, Bryce; Harnocz, Alex; Milius, Katelyn
Subject: FW: Comments on Proposed Marathon Station Redevelopment

Johanna Schwarz

Administrative Assistant II
Department of Planning and Development
City of Lakewood
12650 Detroit Avenue
Lakewood, Ohio 44107
216-529-6631
216-529-5907 fax

From: Jeanine Gergel [mailto:ninaraeg@gmail.com]
Sent: Monday, April 29, 2019 5:46 PM
To: Planning Dept; Mayor's Office; Litten, John; George, Meghan; Rader, Tristan; O'Leary, Sam
Cc: Adam Jusko
Subject: Comments on Proposed Marathon Station Redevelopment

Dear Mayor Summers, Members of the Lakewood Planning Commission and City Council,

We are writing to express our concerns about the proposed redevelopment of the Marathon Station property on Lake Ave. Our concerns have to do with (1) the proposed rezoning of the property; (2) the configuration of the proposed residences to be built on the site; and (3) the notice (or lack thereof) to neighbors nearby like us.

Proposed Rezoning

We do not support the proposed rezoning of the property from medium density residential to planned development as we are concerned about the impact of the congestion and traffic arising from the proposed 5 residences (on a 3 lot site) on nearby neighbors.

Configuration of the Proposed Residences

We do not believe the setbacks in the current plans are at all in keeping with the look and feel of the rest of the neighborhood. We imagine there are some financial reasons 5 residences are being proposed on a site that currently allows for only 3, but we don't believe current zoning, which protects property owners in the surrounding neighborhood, should be abandoned in favor of the profit interests of a private entity. While we understand the style of the home being proposed may be highly desirable in Lakewood, we would feel much more comfortable with more setback and less density. Perhaps 4 units on the site is a compromise we could all live with?

Notice

We are surprised that we did not receive any direct notification from the city about the proposed rezoning or proposed development when we live just 3 doors away. We get notices regularly for much more minor plans being made by our neighbors (such as the new driveway being put in across the street) but received no notice about the Marathon property plans. Perhaps we live just far away enough to make providing notice not a legal obligation, but to us not providing notice on this very significant project just 3 doors down feels like a breach of duty by the city.

We urge you not to approve the plans as currently proposed and to consider modifying the plans to allow for more setback and less density on the 3-lot site. We also ask for the courtesy of notice for future projects so close to our home.

Thank you,

Jeanine Gergel and Adam Jusko

13930 Lake Ave.

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Schwarz, Johanna

From: jross44107@aol.com
Sent: Wednesday, May 1, 2019 4:28 PM
To: Planning Dept; jross44107@aol.com
Subject: Marathon Gas Station project

Dear Planning Commission

My name is Jo Ann Ross and I live at 13875 Lake Ave.

I am excited to see Residential Development being planned across the street from my home BUT

1. Homes set back 19 feet from the curb does fit with the architecture of our neighborhood. The sight line would be "unsightly". I hope you can see the detriment to our this portion of Lake Ave this would be.

2. To have 3 homes share common driveway and 2 homes share a common driveway is very problematic.

Where would workmen park ? Leaf removal ? list goes on

I speak from experience. Our driveway was once a single driveway that we shared with great neighbors. The down side was when someone would pull into the driveway for whatever reason, the driveway was blocked. Happily we jointly made the single driveway into 2 that are adjacent. The current plan doesn't allow for that at all.

3. To put 5 homes onto a property that is 3 lots obviously will be a cramped.

4. Building only 4 homes will reduce the "sardine can" look and actually give the homes some green space. Is there a code concerning the % of a home site that must be green ?? They could be set back to stay **consistent** with the neighborhood- 50 - 65 ft off the side walks .

I can only ask you "would you like this done if you lived here "?

I don't

Respectfully

Jo Ann M Ross

Schwarz, Johanna

From: Sylvester, Bryce
Sent: Friday, May 3, 2019 11:29 AM
To: justin smith
Cc: Planning Dept; Milius, Katelyn; Summers, Mike
Subject: RE: Lake Ave Marathon Station Redevelopment

Justin –

Thank you for this email. Kind of you to take the time to send it.

I also appreciated the time talking yesterday. Thank you again for sharing your insight, and perspectives.

Regards,
Bryce

Bryce Sylvester, AICP
Director of Planning and Development
City of Lakewood
216-529-6635
bryce.sylvester@lakewoodoh.net

From: justin smith <justin@jws.io>
Sent: Friday, May 3, 2019 10:30 AM
To: Sylvester, Bryce <Bryce.Sylvester@lakewoodoh.net>
Cc: Planning Dept <Planning@lakewoodoh.net>; Milius, Katelyn <Katelyn.Milius@lakewoodoh.net>; Summers, Mike <Mike.Summers@lakewoodoh.net>
Subject: Re: Lake Ave Marathon Station Redevelopment

Hey Bryce

Just wanted to say thanks again. Things didn't go the way we were hoping, but I appreciate you taking the time to hear me out. I imagine you've got quite a tough job trying to make everyone happy, we can't always win.

Take care.

Justin

Sent from my iPhone

On May 1, 2019, at 3:15 PM, Sylvester, Bryce <Bryce.Sylvester@lakewoodoh.net> wrote:

Justin –

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Director of Planning and Development
City of Lakewood
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from a packed lot will surely take away from that character, and will be a detriment to the aesthetic of our neighborhood.

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Thank you for taking this into consideration, and thank you for working to keep Lakewood a wonderful and beautiful place to live.

Justin Smith
13945 Lake Ave
330-620-7285

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Schwarz, Johanna

From: Bullock, Tom <Tom.Bullock@lakewoodoh.net>
Sent: Friday, May 3, 2019 11:45 AM
To: Martin F. Jones
Cc: Planning Dept; Milius, Katelyn; O'Leary, Sam; Litten, John; O'Malley, Daniel; Rader, Tristan; George, Meghan; Anderson, David; Summers, Mike; Sylvester, Bryce
Subject: Re: Development at Parkwood and Detroit

Mr. Jones,

There could be changes proposed beyond what so far has been presented by the developer. For this project, the City has some leverage to negotiate. I am interested to see what comes next, and don't want to prejudge. There's more negotiating to do and I am an optimist—it's quite possible we can get to yes.

As I've stated to your neighbors, it's helpful to clarify what "too big" and "too many" means: so far what I've heard is that the specifics that we can objectively measure include parking, traffic, and setbacks/screening/height. Traffic and parking can be successfully addressed; the big issue seems to be the scale.

Thanks for your letter,
Tom

On May 3, 2019, at 10:56 AM, Martin F. Jones <martin.f.jones@sherwin.com> wrote:

Hello All. My name is Marty Jones, and my wife, Peggy, and I live at 1521 Parkwood. We have lived here since 1993.

I have e-mailed you all earlier about the proposed development at Parkwood and Detroit.

That was before the Solove group presented their proposal to the Planning Commission and Arch Review Board, (ARB).

Now that they have, and you have all had a chance to see for yourselves what is proposed, I am e-mailing again from the perspective of the known vs. the earlier e-mail that was a little fear of the unknown.

There has also been a "revised" plan from the Solove group, if you can call it a revision. It was basically moving the pool and dog park, and making the building less box like looking.

But the major issues are unchanged. And those are, the height and size, the number of units/people, and the increased traffic from all these new people.

You all know that this is way too big and cramming 275 units/500 people into that small of an area is not smart. And it is not what Lakewood is. We are streets and homes and neighborhoods and a community.

At a recent meeting with the mayor, he stated that at present time, there was not enough support from the boards and from council to approve this plan. He also said the Solove group has been made aware of this.

At the last Planning Commission meeting in April, Mr. Solove said to the committee members, and later to a dozen or so residents outside the meeting room, that he needs somewhere around 27-280 units to make this profitable. And that building something smaller with 100-125 units and surface parking would not be doable from a business standpoint the way it is at the Barry Buick site.

He pretty much said he cannot reduce the number of units and in turn, lower the size and still make this a worthwhile project.

If that is the case, and to be fair to him and his company, wouldn't it be wise to tell him not to come back in June with a revision that makes things look more pretty but still has the 8 stories and 275 units?

I ask because the suggestions at the last ARB meeting talked about the color of the brick, the appearance of the main entrance, the set back from the street/sidewalk space, etc. What is the point in having him address these things if the size is always going to be a roadblock for him?

So please listen to the residents, the people who make up the city and our neighborhood. We would love to see something go in at Spitzer, but not this overwhelming project. We are not Chicago, we are not the Gold Coast.

We are one of many Lakewood neighborhoods with dedicated, Lakewood loving citizens. We cannot be ignored or passed over. We care and are passionate about our situation, that's why we turn out at the meetings and send e-mails. This love and passion for our block and our neighborhood has got to count and factor into your decisions.

Lakewood is the people and the families. It is not the property and the minuscule bump in tax revenue.

Thanks for your time and good luck.

Marty Jones
The Sherwin-Williams Company
Performance Coatings Group
Customer Complaint Coordinator - Industrial Wood
martin.f.jones@sherwin.com
216 566-3624 - Office

Schwarz, Johanna

From: George Quil <quilg@cox.net>
Sent: Sunday, May 19, 2019 8:48 PM
To: Mayor's Office; Planning Dept; Sylvester, Bryce; Litten, John; George, Meghan; Rader, Tristan; Bullock, Tom; Anderson, David; O'Leary, Sam; O'Malley, Daniel
Subject: Fwd: 13900 Lake Avenue

Dear Mayor Summers, Members of Lakewood Planning Commission and City Council,

This writing is a follow-up to my earlier email of April 30 regarding the proposed project at 13900 Lake Avenue. Since that time I have had a few conversations/correspondence with some of you and also had the opportunity to speak with a number of my neighbors.

My position remains opposed to the current plan and feel the main concern continues to be the distance of the proposed (revised) setback and also the density of putting five houses on three lots.

By the way, Lake Avenue looked beautiful today for the marathon race. It would be nice to continue the open feeling for years to come.

Thank you for your consideration.

George W. Quil

13468 Lake Avenue

Begin forwarded message:

From: George Quil <quilg@cox.net>
Subject: 13900 Lake Avenue
Date: April 30, 2019 at 12:52:42 PM EDT
To: mayor@lakewoodoh.net, planning@lakewoodoh.net, bryce.sylvester@lakewoodoh.net, John.Litten@lakewoodoh.net, meghan.george@lakewoodoh.net, tristan.rader@lakewoodoh.net, Tom.Bullock@lakewoodoh.net, David.Anderson@lakewoodoh.net, Sam.OLeary@lakewoodoh.net, Daniel.OMalley@lakewoodoh.net

Dear Mayor Summers, Members of the Lakewood Planning Commission and City Council,

The purpose of this writing is to express my concerns regarding the proposed planned development of the Marathon site – 13900 Lake Avenue.

I have always felt Lake Avenue to be the premiere street of Lakewood. There is always a great sense of pride when I travel west on Lake Avenue, off the Shoreway, traveling through Cleveland, crossing over West 117th into Lakewood. There is that “cozy, homey feeling” of what Lakewood is all about. There is no question as to the quality of the road and the overall upkeep. Once past our famed Gold Coast, the mainly residential portion maintains a flow of beautiful homes and well maintained yards which is most appealing to the residents and many visitors who enjoy a wonderful walk to Lakewood Park. The setback of the existing homes provides an openness and balance.

Yes, there are a few exceptions, but again do to adequate setback we have been able to maintain a street which has a wonderful look and appeal. Even the existing Marathon station fits in because of the distance of the setback to the retaining wall and the openness due to the spacious driveways. This would be dramatically changed with the proposed project.

Like many, I am in favor of some sort of neighborhood development , but I am hoping that whatever is finally decided, will fit within the Lakewood Community Vision "...to preserve the historic character of residential neighborhoods...to encourage...infill development which is complementary to the scale and character of surrounding residential uses..." Why would you not apply this vision to one of Lakewood's most beautiful streets?

Over the years the past leaders of Lakewood have spent much time developing the "Vision" of our community. It is unclear to me why you, our current leaders would not follow its intent.

I am opposed to the current plan and would urge you to only approve a plan consisting of adequate setback which would be consistent to the adjacent properties. We need to maintain the flow, balance and beauty existing today.

Thank you for your consideration.

George W. Quil

13468 Lake Avenue

Schwarz, Johanna

From: James O'Barsky <obarskyjames@gmail.com>
Sent: Sunday, March 10, 2019 3:08 PM
To: Planning Dept
Subject: Market Rate Apartments

Hello Katelyn:

My name is Jim O'Barsky I live at 1419 Orchard Grove. I attended The Planning Commission meeting on Thursday 03/07/2019 ,and I have some definite questions and concerns about the proposed project at 16000 Detroit Ave and 15801 Detroit Ave and the Lakewood Community Vision.

The only " vision " I see is how to crowd as many people into a limited space as possible, and creating an eyesore for many of its residents. I am not saying this vindictively or with any malice towards the developer. I believe housing, retail and the use of a Mixed Use Overlay tool is an excellent way to adopt Lakewood Community Vision but this plan does neither. The parking situation makes absolutely no sense. The parking on the streets mentioned in the proposal are filled after sundown, with the excess spilling over into Barry's empty lots. With that said the two proposed housing buildings North and South respectively are vastly disproportionate in garage spaces vs. apartments. At the meeting last Thursday I did not hear any concrete numbers on apartment numbers in each building just a total of 150 total apartments and garage spaces on the first floor only witch will shield the view of 82 surface and covered vehicle spaces on the North building and 44 parking spaces behind and under the structure on the South building. According just to these figures there is a very real potential of over 300 vehicles just from the people occupying these apartments. Another way of looking at it is the south building will have roughly 70 apartments with a very real potential of 140 vehicles with parking for 44 in the south building alone. Again where is the " vision ".

Furthermore no one would like a 35' wall 12' away with windows staring down in their house . This type of proposal affects the quality of life for the neighbors and tenants, A good quality of life consists of having family and friends coming over celebrating holidays and visiting, all of this will be seriously jeopardized if there is no place to park. Has the developer considered the turn over rate when tenants realize their quality of life has been compromised for space.

In conclusion this effects everyone's quality of life.

Yours Truly:

Jim O'Barsky

Jennifer Dussault
1420 Orchard Grove Avenue
Lakewood, Ohio 44107

Re: Docket No. 03_20_19
16000 and 15801 Detroit Ave.
Market Rate Apartments

Katelyn Milius,

My name is Jennifer Dussault, I live at 1420 Orchard Grove Avenue and I have not only lived in the city of Lakewood for the past 48 years but in the same home. I was raised here and have raised 4 children here. I have seen nearly half a decade of change throughout this city and it is only recently that I see changes I do not like for the family friendly community that I once knew. Empty storefronts, vacant doubles, and urban like high-rises being built on every corner possible.

The only "vision" I see and have read here is the financial benefit of a developer collecting high rent from 150 tenants. Nothing in this proposal seems to benefit the city of Lakewood or its residents. Lakewood is supposed to be a family friendly suburb and I'm not sure why anyone is trying to or allowing it to slowly become an urban area riddled with high-rises. I'm curious as to how many of the recently built apartment complexes are currently vacant not to mention all the empty storefronts down Detroit and Madison Avenues. Lakewood already has an extremely diverse variety of housing opportunities such as single family homes, duplexes, multi-family homes, apartment buildings and condominiums, as well as housing for low income families and the elderly. I see no need for any more housing to be built when there are plenty of options open and available. Our homes are nicely spaced apart and this project will only put buildings on top of us. I've enjoyed looking out my windows for nearly fifty years and not staring at brick walls as I'm sure my neighbors have as well. I've enjoyed being able to see my children walk to a mailbox that no longer exists on my street corner, I enjoy being able to watch my children from afar as they begin their journey each day off to school. I like looking out my window and seeing the beautiful United Methodist Church as well as Detroit Avenue and its traffic and hearing the sounds of public transportation and church bells ring. I do not wish to be cemented in.

As the developer states "this project will create a district unto itself", there is nothing in here benefitting the current residents, their families, children, the elderly, or this community as a whole "holistically embodying what Lakewood is". A suburb! The only thing in this proposal mentioning any benefit to current residents is "the incorporation of public spaces" but upon further reading that only consists of a very small area called a "pocket park" or a "greenspace". What is a "pocket park", a patch of grass with a park bench? Actually it looks as though there might be a tree behind one of the buildings in the plans. Is this the "greenspace"? This is absurd. The definition of "streetscape" consists of urban roadway. Again, Lakewood is a suburb!

Page 2
From Jennifer Dussault
Re: Docket No. 03_20_19
Market Rate Apartments

The planned buildings look as though they are butt up against the sidewalk with no room for living things other than human traffic. "First rate amenities such as an outdoor pool, sun deck, lounge, fitness facility, and meeting rooms" will solely benefit residents of said buildings and not the current families who reside in Lakewood. The "project" will create an unnecessary, unneeded, and unwanted "district unto itself"! Even the "commercial building" will house amenities solely for tenants. This proposal is ludicrous!

Parking is already an issue for current residents. Most of the homes in the surrounding area are duplexes. Common sense tells us that there are more than one vehicle per home. In fact the double I share with my brother consists of 2 conversion vans with trailers, 1 mini bus, 1 mini van, 1 SUV, and 3 other vehicles. That's like 10 parking spots and no they don't all fit in the driveway. I realize this is excessive and not the norm however most double homes use parking for up to 4 cars. The single family home next door has 3. The residents of Orchard Grove Ave. currently use all the parking spots up to the corner of Detroit Ave. and with Barry Buick being empty are also using a few spots in the lot. I have seen people from Rosewood Ave. parking in Barry Buick's empty lot as well as church overflow from Detroit Ave. There are already 2 apartment buildings on Cranford Ave. that only have access to street parking. For there to be a proposed total of 182 parking spots for 150 tenants is ridiculous. 28 of those are in the "bowling alley" shaped lot 2 blocks away. Tenants are not going to park there if they can park closer on Orchard Grove, Brockley or Rosewood taking up current residents parking. Tenants are going to park on our side streets alongside the buildings again taking up current residents parking spaces. Using sound judgement it is easy to assume that each tenant will have approximately 2 vehicles per apartment. With that being said the need for at least 300 parking spaces would better suffice for "ample parking". God forbid they have visitors, company, guests, family visiting etc. that also goes for the current residents of Rosewood, Cranford and Orchard Grove Ave. having visitors. It truly is preposterous.

Lakewood does not need anymore high-rise urban apartment buildings in its suburb.

Sincerely,

Jennifer Dussault

Schwarz, Johanna

From: Bullock, Tom
Sent: Monday, March 11, 2019 10:24 AM
To: Amy Martin
Cc: Litten, John; O'Leary, Sam; Anderson, David; George, Meghan; Rader, Tristan; O'Malley, Daniel; Planning Dept; Mayor's Office; Ron Wank; Julie Nichols
Subject: Re: Interesting letter in Crains

Ms. Martin,

Thanks for your note. I understand you have concerns about the Solove development proposed at Detroit and Parkwood. I agree there are a number of neighbor impacts that must be addressed and improved in the proposal. I support setting a high quality bar and continuing to communicate between developer and community to address these.

The good news is, I understand the developer is working to do so and intends to show significant progress at its next round of meetings at the Planning Commission and/or ABR.

To respond to some points raised in the Crain's opinion column, there's an implicit dislike of rental and the belief that Lakewood has enough already. This misses that all properties, including rental, come in many shapes, sizes, types, price points, newness of condition, and style. Lakewood has very little rental stock of the new-built "class A" (to borrow a term from commercial office real estate) type rental that Solove proposes to build.

So it's not accurate to view Solove's proposal as more of the same: on the contrary, it adds new housing types, which is a strategic goal identified as crucial to Lakewood's growth since at least the Grow Lakewood Commission (ca. 2005).

New housing types can attract new residents or retain current residents who'd otherwise leave. As we face the decennial Census next spring, we should look for every opportunity to add population — which strengthens our community via a greater tax base for the schools and city, more customers for shops, and more people contributing to our social fabric. Density is good for the environment too: it's easier to bike and walk in Lakewood, and Lakewood residents are served far more efficiently by roads, sewers, and other infrastructure, a fact clearly in focus right now since the City just submitted a major sewer upgrade plan to the EPA and had to analyze all these factors.

Secondly, the writer "suggest[s] creating a small subdivision that adds some green edge along Detroit Avenue with creative cluster homes, one-floor living." Although green space is needed, our community plan and zoning standards call for density and infilling the built environment where gaps exist along our commercial corridors, Detroit and Madison. Principles of urban design, which Lakewood has adopted and which were recently affirmed in our Community Vision that took guidance from a public-input process, seek to create density and thereby walkability, business attraction, and customer attraction. Solove's proposal is consistent with that and, done right, could activate your section of Detroit with new commercial vitality. This is appropriate since it's on Detroit, a road intended for major traffic and commercial activity. (It'd be far more challenging if a major development was proposed, for example, deep in a residential area.)

Whether the developer proposes a dense, large building or a less dense cluster home development is entirely a private business decision in this case—and the City’s role is to review the proposal either way. (In other cases, such as McKinley School and Lakewood Hospital redevelopments, the City had far more control and say over the development proposals because the City owned the land and attached certain requirements to the contract for land transfer.) Why did Solove propose what they proposed at Parkwood and Bunts? You’d have to ask them. No doubt land price and cost per square foot factor into sizing the development to be a viable going concern. I don’t know the sale price and even the pricing of the intended rental units. I’m not sure that it’s required that this information be disclosed in this case since it’s a private commercial transaction.

Would the development be successful if built? I agree that it’s in Lakewood’s interest that it should. As a private development with absolutely zero public investment and no tax abatements (very frequently required for such developments), no one has more skin in the game—more to gain and more to lose—if the development is unsuccessful than Solove. The proposal is on the scale of tens of millions of dollars, and the developer has conducted a market study to evaluate whether the development can be successful. That’s a compelling, on-going motivating factor for the developer to make this a quality, successful project.

The neighbor impacts remain a question, and they are also the area on which the City can and most appropriately will focus. There is some work needed by the developer to respond to the impacts you and your neighbors have raised, and I look forward to reviewing their revisions in the near future.

Sincerely,
Tom

On Mar 11, 2019, at 5:57 AM, Amy Martin <amyfrancine@att.net> wrote:

Good morning,

Below is a link to an interesting perspective from a Planning and Development professional who lives in Lakewood:
<https://www.craainscleveland.com/node/723456/printable/print>

As a resident of Parkwood Road who will be directly impacted by the development proposed between Wyandotte and Bunts, and a 27-year resident of Lakewood, I couldn't agree with the author more. Lakewood needs to preserve the integrity of our neighborhoods and housing stock. Development along our main corridor should reflect this.

We are hoping that the changes that JSDI will propose during the April Planning Commission meeting take into consideration the many concerns that we have voiced about the size, scope, and scale of this project. And, as a group, the residents of my neighborhood are perplexed as to why the larger development (Wyandotte to Bunts) is proposed for the smaller parcel of land as opposed to the development proposed for the Barry Buick site.

Thank you,

Amy

CRAIN'S CLEVELAND BUSINESS

March 10, 2019 04:00 AM

Personal View: Lakewood needs to take a hard look at development proposals

GUEST BLOGGER

Nora McNamara



Contributed rendering

The Jerome Solove Development Inc. firm of Columbus recently announced plans to build three-story apartments on Detroit Avenue in Lakewood.

Being a successful community is a big attraction to developers and a big responsibility for the city and residents to be as thoughtful and discerning as possible in evaluating, refining and welcoming new growth, writes planning and development professional Nora McNamara.

A Columbus-based real estate developer recently announced plans to build a second intensive real estate **project** on the former Steve Barry Buick car dealership on Detroit Avenue in Lakewood. In November, the same developer, **Jerome Solove Development Inc.**, proposed a 275-suite apartment **complex** for a Detroit Avenue site near Bunts Road.

These two JSDI projects are on top of the mixed-use **One Lakewood Place** being developed by Carnegie Management & Development Corp. on the former site of Lakewood Hospital.

Every proposal for development is not a good one. Does Lakewood need any more rental space? What will these big projects do to change the city's character? Could at least one of these sites be geared toward housing for people who want to downsize, which would free up potential single-family homes in a tight market?

I suggest creating a small subdivision that adds some green edge along Detroit Avenue with creative cluster homes, one-floor living, or a townhouse look with two separate stacked units, with an elevator, that provides a desirable living option and product that Lakewood does not have.

How many rental products from downtown Cleveland to Lakewood exist for the same market or are planned, in progress or completed, and how is their lease-up and occupancy going?

Many developers insist what they offer is going to save a city or neighborhood. This is not a condemnation of developers, but a call for the city and community to take a hard look and evaluate.

I urge Lakewood to stop, take a deep breath and, where appropriate, say no to this proposal at this location as proposed. Consider your community goals and insist on something that contributes to community stability for the long haul and is complementary in design and configuration to the existing architectural character.

Lakewood has plenty of density already but not much green space, except along the side streets. So, could a new development wrap some of that green around to Detroit Avenue?

In addition, focus on existing rental units with some code enforcement and rehab assistance, otherwise the future may not be great for these buildings. In fact, we should think of how the failure of those apartments would impact areas all over the city.

Lakewood has always been a special community and deserves nothing but the best and should continue to insist on it. I have confidence the city can work with the community to have open, "out in the community" discussions with residents about proposals and make good decisions.

Walking over a site with even a concept site plan and elevations can help residents and reviewers obtain a better sense of context and potential impact on the surrounding community, and ask pertinent questions: How big is the proposed structure and what does that mean or potentially look like within the parameters of the property? Where is the traffic ingress and egress, parking for residents and guests, garbage pickup, where does the snow go, will you destroy the sense of privacy an adjacent neighbor currently enjoys in their yard or through their windows? What about loss of light, noise, hours of activity (24-hour living can be very different from a weekday, 8-5 p.m. business)?

Being a successful community is a big attraction to developers and a big responsibility for the city and residents to be as thoughtful and discerning as possible in evaluating, refining and welcoming new growth.

McNamara is a planning and development professional who lives in Lakewood.

Inline Play

Source URL: <https://www.crainscleveland.com/guest-blogger/personal-view-lakewood-needs-take-hard-look-development-proposals>

Schwarz, Johanna

From: Elissa Kelly <elissakelly85@gmail.com>
Sent: Tuesday, March 12, 2019 3:30 PM
To: Planning Dept
Subject: Market Rate Apartments Concerns

Hi Katelyn,

This is Elissa Barlik and Joe Kelly, and we live in the neighborhood of all this exciting new stuff! (By the way it's awesome to see another LW grad in Lakewood doing amazing things! Hope all has been well!)

We were not able to make the meeting about the new proposals, but our neighbor Jim filled us in on all the info. We are at 1423 Orchard Grove.

We are excited by some of the ideas that were discussed, but feel the same way as the rest of our neighborhood about a few key issues.

First, the main issue is parking. It seems as though there will be nowhere near enough parking for all of these units. In most households now, two cars is pretty basic and according to the letter written by the builder I'm seeing about 180 parking spaces for 150 units. Unless there will be some kind of strict rule set by the apartments that each household can only have 1 car, you are easily looking at 250+ vehicles. (Not to mention visitors) With only 154 parking spaces, that will be not even close to enough. Lakewood is already a very congested city and we think that squeezing 150+ people and more cars with no parking into these corners is just too much. Detroit is already way too congested. Congested to the point that most Lakewoodites I know avoid it at all costs on weekends. (Don't get us started on the stop lights).

The height of the building that will be on our corner also concerns us with the lack of privacy that we and my neighbor Jim's house will experience. I am not at all thrilled with the idea of 35+ windows staring down into my back yard.

I also did not see much being built that would provide us with anything new. (Shopping, restaurant opportunities etc.) It looks like it is all amenities for the people who will be living in these apartments. If this is not the case, please let me know, because I want to make sure I have the correct information.

My other question is will these apartments be rent only or up for sale, and if so how much? I understand the Lakewood housing boom is attracting people, however, folks like my neighbors and I cannot afford for taxes to go up again. We would like to be able to stay in Lakewood.

All together with this, I don't see where this will be doing our neighborhood any good the way the plan is now. We are all in agreement in our area, that we do NOT want this the way it currently is.

All we see is way more people, way too many cars who will be parking on our street, more traffic on our street, the possibility that a light will have to be put in to accommodate the uptick in traffic (which no one on our street wants) less privacy, possibly higher taxes (depending on the details), nothing to use or that benefits us, all for the sake of making money. Lakewood is just so congested already.

The neighbors I have talked to across the board all feel the same way. Not all of this is bad. The basic concepts are good, but we would like to see more that would benefit the area and the neighborhood. At the very least, make sure enough parking will be available, whether that means reducing the number of units or increasing the number of spaces or both.

While I realize you will never make everyone happy, these concerns seem to be across the board. I am hoping the builder will take the consideration of the neighborhood seriously and rethink some of these things.

Thank you for all the hard work you put in and for listening to the concerns. Keep up the good work girl and again, its so cool to see another LW grad working for our city!

Elissa and Joe Kelly

Schwarz, Johanna

From: Beth Heffner <beth.heffner@yahoo.com>
Sent: Wednesday, March 13, 2019 11:11 PM
To: Milius, Katelyn; Planning Dept; O'Leary, Sam
Subject: Re: Steve Barry Buick Apartment Project

Sorry for the delay. As you know, I did attend the meeting. I plan on being there tomorrow night too.

I am still interested in obtaining answers to my questions from the developer. Last week he was unable to answer how many apartments will be allocated to each parcel. He also deflected when asked where will the dumpsters be located. He said something like, "we haven't got that far in our planning."

The city is understandably interested in the money this project will generate but it is my hope that you will take into account the impact this type of project will have on the PROPERTY OWNERS.

After our topic was finished and the planning meeting was still underway, the developer, his employees, my neighbor, brother, me and two councilmen were in the hallway. Jerry Sokolov made a comment about someone insinuating that he was going to jam people into the apartments. He was referring to me during the public comment time. It's not so far reaching to assume that 150 apartments will mean there are more than 150 new vehicles in a very small area. He stated that "29 yr old high earning millennials that make \$120, 000 a year don't want roommates". He also stated that they don't rent to people who require co-signers. Sokolov also mentioned that the renters do not have assigned parking in the garages, so it would be first come first served.

I consider this to be an offensive comment. Keep in mind that he also made the statement during his presentation that he wanted to keep his renters HAPPY and provide parking. Well, I would hope that the property owners who have lived in the homes surrounding his new project are being considered somewhere in this happiness equation. We were here first and don't care to have reduced parking, a giant building in my backyard, and at least 150-300 people living 20 feet from my house.

Sorry for the rant, but we are worried that no one has the interests of the people who actually LIVE in the area in mind. I have owned my house for over 15 years and I have extreme concerns about this project.

I would like to add a new question to the list:

When it comes to parking, how close does the parking need to be to the apartments?

The "bowling alley" lot is pretty far from the proposed apartments. The renters would not have an incentive to park 2 blocks away when they can just park in front of my house.

Beth

On Thursday, March 7, 2019, 10:41:51 AM EST, Milius, Katelyn <Katelyn.Milius@lakewoodoh.net> wrote:

Hi Beth,

Thank you for your email. We will add this to the questions to answer during the public comment period of the meeting tonight. Please let me know if you plan on being there, or if I should send you the responses. On your zoning question, we will double check your parcel, but several residential buildings are zoned commercial that are adjacent to our commercial corridors.

Please let me know if you have any other questions or concerns.

Katelyn

Katelyn Milius, PE

City Planner

Department of Planning & Development

City of Lakewood

12650 Detroit Avenue

Lakewood, OH 44107

216-529-6634

From: Beth Heffner [<mailto:beth.heffner@yahoo.com>]
Sent: Tuesday, March 5, 2019 2:31 PM
To: Planning Dept; O'Leary, Sam
Subject: Steve Barry Buick Apartment Project

Good afternoon.

Here are some of the questions pertaining to the new project:

When was my property located at 1412 Rosewood Ave rezoned as commercial use?

Where will the dumpsters be located? What about recycling? For reference, Rosewood Place has one dumpster in the lot that is constantly overflowing and there are no recycling receptacles, therefore, random bottles, milk jugs, etc are placed on the curb and tend to blow into the road and into neighbors' property.

How are the 150 apartment locations being allocated? How many units will be on the south side of Detroit between Rosewood and Orchard Grove?

150 apartments could potentially hold 300 people. If there are at least 300 tenants with 300 vehicles, where will these people be parking?

What is planned start date? Completion?

How close to the property line will the buildings be located?

Thank you.

Beth Cook Heffner

1412 Rosewood Ave

Lakewood OH 44107

216-389-2384

Lakewood's mission in the application of Lean Six Sigma principles is to provide exceptional customer service that meets or exceeds our citizens' expectations and maintains a vibrant, competitive community.

Schwarz, Johanna

From: Jeremy Schwerdt <jeremyschwerdt@gmail.com>
Sent: Thursday, March 14, 2019 10:02 PM
To: O'Leary, Sam
Cc: Planning Dept; Harnocz, Alex
Subject: Re: Barry Buick Development Site

Hi Sam,

I wanted to say thank you - to both you and Alex Harnocz - again for encouraging me to attend tonight's ABR meeting.

After hearing from the ABR, The City of Lakewood, the developer and most importantly, my fellow residents, my stance is in opposition to the project. I strongly believe that it will negatively affect my community and the quality of life in Ward 2. Although, I still do not fully believe that my voice will be heard, I will do everything that I can do as a Lakewood citizen to stop the development of this site.

Please expect my official written statement of opposition before the end of the weekend.

Best regards,

Jeremy Schwerdt
1335 Brockley Avenue
Lakewood, OH 44107
216/905-8468 (cell)
jeremyschwerdt@gmail.com

On Thu, Mar 14, 2019 at 2:06 PM Jeremy Schwerdt <jeremyschwerdt@gmail.com> wrote:

Hi Sam,

Thank you so much for your response. It's appreciated.

You are absolutely correct in that I don't inherently disapprove of the project. I am concerned about it's potential negative effect on my block/city/community.

I hope that I see you tonight.

Jeremy

Sent from my iPhone

On Mar 14, 2019, at 1:35 PM, O'Leary, Sam <Sam.OLeary@lakewoodoh.net> wrote:

Hi Jeremy,

I plan to try to make it to the meeting tonight, assuming I can extricate myself from my work obligations early enough. Citizens can and regularly DO make significant and meaningful contributions to the approval process for residential and commercial projects all over the city.

Regarding meeting attendance, I still think it is very worthwhile, assuming your objective is to have your specific concerns heard and create the best possible project for the neighborhood. As we discussed, I didn't get the sense that you are necessarily opposed to this site being re-purposed from a vacant car dealership to a residential use, but rather had concerns about the density of the proposed development and its impacts on the neighborhood (in terms of traffic, noise, light, and aesthetic appearance, to name a few). If this is the case, I think your attendance at the meeting would be both helpful and productive. Our City's boards and commissions do significant and important work-- their feedback to developers, business owners, and homeowners usually results in real, tangible changes to what is planned, and the impetus for those changes is often public comment and the concerns expressed by those who show up to the meeting. These changes certainly often impact the look of proposed new (or old/existing) buildings, but also pertain to things like landscaping and screening, as well as architectural design features which ultimately have practical impacts and real functions that create buffers, minimize noise or light intrusions, change the way people flow in or through the site, etc., etc. These meetings are also usually very good opportunities to meet and have direct conversations with the developer proposing this project, which can be mutually beneficial as well (to the developer in terms of understanding your concerns, and to you as an opportunity to directly address the person/company that would actually be overseeing construction, etc.).

As I mentioned, our boards and commissions are staffed by volunteer citizens with professional expertise in the areas in which they serve, but there is always significant benefit to be had by the neighbors' intimate knowledge of that particular block and the particular issues/idiosyncrasies that are part of fabric of that block. In my experience, our boards and commissions are very responsive to resident feedback and input.

Hope that helps, and hope to see you tonight, or otherwise touch base soon about this project and your concerns.

Regards,

Sam

From: Jeremy Schwerdt <jeremyschwerdt@gmail.com>
Sent: Thursday, March 14, 2019 7:51 AM
To: O'Leary, Sam
Cc: Planning Dept
Subject: Re: Barry Buick Development Site

Sam,

Thank you so much.

My question at this point is what would be the benefit of attending tonight's ABR meeting? Based on our conversation, it doesn't sound like citizens can make any difference. If the property is zoned commercially - and is sold commercially - it is what it is. As a citizen and as a homeowner, what difference can I possibly make?

Best regards,

Jeremy Schwerdt
1335 Brockley Avenue
Lakewood, OH 44107
216/905-8468 (cell)
jeremyschwerdt@gmail.com

On Mon, Mar 11, 2019 at 2:26 PM O'Leary, Sam <Sam.OLeary@lakewoodoh.net> wrote:

Hi Jeremy,

I've cc'd the email address for the planning commission, which is planning@lakewoodoh.net

From: Jeremy Schwerdt <jeremyschwerdt@gmail.com>
Sent: Friday, March 8, 2019 6:28 AM
To: O'Leary, Sam
Subject: Re: Barry Buick Development Site

Hi Sam,

Can you please provide me with a POC for the Planning Commission?

Thank you so much.

Best regards,

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On Mon, Mar 4, 2019 at 6:10 PM Jeremy Schwerdt <jeremyschwerdt@gmail.com> wrote:
Hi Sam,

Thank you so much for taking the time to speak with me this afternoon.

It's great to know that other citizens have also voiced their concerns. Additionally, it is extremely reassuring to hear that City Council is listening.

Following your advise, I would like to reach out to the Planning Commission. Can you please provide me with a point of contact and/or contact information for that department. As discussed, I will cc you on my email that outlines my apprehension to the former Buick Dealer development site.

Thank you, again.

Best regards,

Jeremy Schwerdt
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216/905-8468 (cell)
jeremyschwerdt@gmail.com

On Mon, Mar 4, 2019 at 3:39 PM O'Leary, Sam <Sam.OLeary@lakewoodoh.net> wrote:

Jeremy,

Wonderful speaking to you this afternoon. Let's set up time talk soon.

Thanks,

| ||| Sam

Schwarz, Johanna

From: Mark Zody <mark.zody@hcsfpr.com>
Sent: Monday, March 18, 2019 7:09 AM
To: Planning Dept
Subject: Barry Buick Property

Good Morning Lakewood One

My name is Mark Zody and I own the property adjacent south of the now closed Barry Buick body shop. We met at the March 7, 2019 planning meeting. After much discussion with my neighbors, the unanimous consensus is we respectfully request that the city reconsider the use of this property for an apartment complex. We have a difficult time understanding why Lakewood needs another apartment complex on commercially zoned land. Further complicate and crowd Lakewood's ongoing parking problems. We all agree the design and layout is not resident and tenant user friendly, considering where parking for said buildings is broken up forcing people using it to cross heavily used thoroughfares.

We feel this prime property could and can be used to benefit the citizens of Lakewood in many other ways, other than another apartment complex. Nice permanent resident townhouses or condos, such as the Rosewood project for one.

Once Again we would appreciate your help to delay this project and request the City to consider alternative used for this property

Friendly Regards

Mark Zody

Schwarz, Johanna

From: Jeremy Schwerdt <jeremyschwerdt@gmail.com>
Sent: Tuesday, March 19, 2019 9:29 PM
To: O'Leary, Sam
Cc: Planning Dept; Harnocz, Alex
Subject: Re: Barry Buick Development Site

Hi Sam,

Thank you again so much for your communication and encouragement regarding the development of the Barry Buick site.

It is true that when I first reached out to the Lakewood City Council I was not inherently opposed to the development of apartments on the Barry Buick site. When we first spoke, I expressed my concerns over traffic, parking, noise and the overall necessity of adding additional housing while similar buildings are vacant. However, after hearing the concerns of my neighbors and community last Thursday (ABR Meeting, 3/14), I believe that the development of this project will fail Lakewood's *Community Vision* and demonstrate the lack of responsibility in City leadership.

Lakewood's *Community Vision* promotes the values of a stable housing market with moderate growth, a diverse business sector and community accessibility. I believe that Jerome Solove Development's proposed "luxury" apartments in Ward 2 will destabilize the housing market in the area and limit the accessibility to community resources and businesses. The proposed apartments have the ability to plummet the value of the homes adjacent, while simultaneously - and dramatically - raising the value of the other houses in Ward 2. These apartments will accelerate what is already an aggressive housing market, resulting in a significant increase in property taxes. It seems completely plausible that most homeowners in Ward 2 will be priced-out of their homes while those living close enough to the apartments will lose significant home value. Speaking for my neighbors and community, (rhetorically) who will want to buy a house that doesn't get any sun because there is a 3-4 story apartment building right next to it?

Adding increased rental properties in Lakewood would not benefit a diverse business sector. We already have studio, one and two bedroom apartments - in historic and beautiful buildings - that are vacant. Our housing stock is unique and it is arguably what entices new residents to move into Lakewood. Adding 150 units in the Mixed Overlay District will congest Detroit Avenue and therefore limit current residents' ability to shop in Lakewood. Downtown will be harder to get to for both residents and those commuting from neighboring cities.

Please accept this as my written statement, as a Lakewood citizen and homeowner, opposing Jerome Solove Development's of the Barry Buick site.

Best regards,

Jeremy Schwerdt
1335 Brockley Avenue
Lakewood, OH 44107
216/905-8468 (cell)
jeremyschwerdt@gmail.com

On Thu, Mar 14, 2019 at 10:02 PM Jeremy Schwerdt <jeremyschwerdt@gmail.com> wrote:
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I wanted to say thank you - to both you and Alex Harnocz - again for encouraging me to attend tonight's ABR meeting.

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Best regards,

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Hope that helps, and hope to see you tonight, or otherwise touch base soon about this project and your concerns.

Regards,

Sam

From: Jeremy Schwerdt <jeremyschwerdt@gmail.com>
Sent: Thursday, March 14, 2019 7:51 AM
To: O'Leary, Sam
Cc: Planning Dept
Subject: Re: Barry Buick Development Site

Sam,

Thank you so much.

My question at this point is what would be the benefit of attending tonight's ABR meeting? Based on our conversation, it doesn't sound like citizens can make any difference. If the property is zoned commercially - and is sold commercially - it is what it is. As a citizen and as a homeowner, what difference can I possibly make?

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Jeremy,

Wonderful speaking to you this afternoon. Let's set up time talk soon.

Thanks,

Sam

Schwarz, Johanna

From: James O'Barsky <obarskyjames@gmail.com>
Sent: Wednesday, March 20, 2019 5:04 PM
To: Rader, Tristan; Anderson, David; O'Leary, Sam; Planning Dept; markzody@cox.net; colindussault@gmail.com
Subject: Barry Buick Property @16000&15801 Detroit Ave.

My name is Jim O'Barsky I live at 1419 Orchard Grove Ave.

I am writing this letter in reference to the proposed development at the old Barry Buick car lots. I have lived in Lakewood most of my adult life, I was not born here I moved here by choice, first I rented and at that point we decided we loved Lakewood and wanted to make this our home, raise our kids and grow old. Well now were old and we still love Lakewood our friends and neighbors are our family.

I'm sure that the proposal from Jerome Solove Developments Inc. is legal and code compliant, but that alone does not make this a good idea or a good fit for this neighborhood and I'll explain why, there are three times more rental units then there are housing units in Lakewood this has been a very delicate balance for years (parking on the streets) but with this proposal that balance will be completely thrown out of whack. The 150 proposed units with parking for 186 cars in all 4 lots could generate 300+ cars on any given evening, this area (Orchard Grove , Rosewood , Cranford , Brockley , Westlake , and Northland) can not support an additional 114+ cars.

I realize as do all my neighbors that something is going to be built there. but a three story apartment complex is not the answer it will block sunlight , views, and have some very disturbing privacy issues. which is not fair to the tenants or the neighbors.

Myself and all the neighbors would love to see a building that blends into the neighborhood and takes into consideration the neighborhood as a whole, Rosewood Place is a fine example of all these considerations. This is a great piece of property and could remain that way with a beautiful piece of architecture that will last 100 years, lets do something all of Lakewood will be proud of.

Thank you for your time and consideration.

Yours Truly

James R O.Barsky

Schwarz, Johanna

From: Jeremy Schwerdt <jeremyschwerdt@gmail.com>
Sent: Wednesday, March 20, 2019 7:57 PM
To: markzody@cox.net
Cc: Rader, Tristan; O'Leary, Sam; Anderson, David; Litten, John; O'Malley, Daniel; Bullock, Tom; George, Meghan; Summers, Mike; Planning Dept
Subject: Barry Buick Development Site
Attachments: Letter.docx

Hi Mark,

I received your letter regarding Jerome Solove Development's proposed "luxury" apartments in the Barry Buick site. I wanted to let you know that I stand with you in opposition to an unnecessary and irresponsible project.

Attached is a copy of the letter I provided to Sam O'Leary and the Planning and Development Department. I was also able to voice these concerns during the ABR meeting on 3/14/19.

If there is anything that I can do you help you and our community, please let me know. I look forward to collaborating with you.

Best regards,

Jeremy Schwerdt
1335 Brockley Avenue
Lakewood, OH 44107
216/905-8468 (cell)
jeremyschwerdt@gmail.com

Hi Sam,

Thank you again so much for your communication and encouragement regarding the development of the Barry Buick site.

It is true that when I first reached out to the Lakewood City Council I was not inherently opposed to the development of apartments on the Barry Buick site. When we first spoke, I expressed my concerns over traffic, parking, noise and the overall necessity of adding additional housing while similar buildings are vacant. However, after hearing the concerns of my neighbors and community last Thursday (ABR Meeting, 3/14), I believe that the development of this project will fail Lakewood's *Community Vision* and demonstrate the lack of responsibility in City leadership.

Lakewood's *Community Vision* promotes the values of a stable housing market with moderate growth, a diverse business sector and community accessibility. I believe that Jerome Solove Development's proposed "luxury" apartments in Ward 2 will destabilize the housing market in the area and limit the accessibility to community resources and businesses. The proposed apartments have the ability to plummet the value of the homes adjacent, while simultaneously - and dramatically - raising the value of the other houses in Ward 2. These apartments will accelerate what is already an aggressive housing market, resulting in a significant increase in property taxes. It seems completely plausible that most homeowners in Ward 2 will be priced-out of their homes while those living close enough to the apartments will lose significant home value. Speaking for my neighbors and community, (rhetorically) who will want to buy a house that doesn't get any sun because there is a 3-4 story apartment building right next to it?

Adding increased rental properties in Lakewood would not benefit a diverse business sector. We already have studio, one and two bedroom apartments - in historic and beautiful buildings - that are vacant. Our housing stock is unique and it is arguably what entices new residents to move into Lakewood. Adding 150 units in the Mixed Overlay District will congest Detroit Avenue and therefore limit current residents' ability to shop in Lakewood. Downtown will be harder to get to for both residents and those commuting from neighboring cities.

Please accept this as my written statement, as a Lakewood citizen and homeowner, opposing Jerome Solove Development's of the Barry Buick site.

Schwarz, Johanna

From: Jeremy Schwerdt <jeremyschwerdt@gmail.com>
Sent: Thursday, March 21, 2019 7:22 PM
To: Bullock, Tom
Cc: markzody@cox.net; Rader, Tristan; O'Leary, Sam; Anderson, David; Litten, John; O'Malley, Daniel; George, Meghan; Summers, Mike; Planning Dept
Subject: Re: Barry Buick Development Site

Hi Tom,

Although, I appreciate your response, I disagree. I think that JSD's proposed property will be extremely negative. I think that it will negatively affect the life of the residents living in the 5 streets around it. Ward 2 does not want to smoothly incorporate this project and we do not want it to work. We do not want it at all.

From my personal experience, moving into Lakewood from out of state, it's the historic, beautiful and truly unique housing stock that entices new residents to move to Lakewood. In regard to retaining residents, I believe that homeowners will leave Ward 2 when this property is built. As a community, does the City really want to drive away homeowners and families to entice more renters into studio and 1 bedroom units? Is there data that demonstrates that these renters actually become homeowners and that they stay in the city?

I completely understand that the City cannot - and likely would not want to - intervene in what is essentially a legal sale in a commercial zone. However, the residents and homeowners of Ward 2 deserve better. If you attended the ABR meeting and saw how scared the residents on Orchard Grove/Rosewood are, you would also believe that JSD does not care about our community.

So far, I've received very positive feedback from the City Council and the Planning/Development Department. I've been led to believe that citizens can make a difference. That is what my community intends to do.

I look forward to seeing you at the next planning meeting.

Best regards,

Jeremy Schwerdt
1335 Brockley Avenue
Lakewood, OH 44107
216/905-8468 (cell)
jeremyschwerdt@gmail.com

On Thu, Mar 21, 2019 at 4:31 PM Bullock, Tom <Tom.Bullock@lakewoodoh.net> wrote:
Mr. Schwerdt,

Thanks for your note. I understand you have concerns about the Solove development proposed at Detroit and Rosewood. I agree neighbor impacts must be properly balanced and mitigated if this proposal is to work, and I support setting a high quality bar and continuing to communicate between developer and community to address these. The good news is, I understand the developer is working to do so and intends to incorporate neighbor feedback as it refines its plans.

We shouldn't assume rental units will be negative. There are many different types (price points, age/newness) of housing for both ownership and rental. Lakewood has very little rental stock of the new-built "class A" (to borrow a term from commercial office real estate). Solove's proposal would add housing of a new category, which has been a long-term city goal since at least the Grow Lakewood Commission (2005). New housing types can attract new residents or retain current residents who'd otherwise leave. We're experiencing this with McKinley Place and Rockport Square, among others.

I'd also like to set expectations: the City only rarely seeks to comment on the content of use of a property, since this is something the market is best suited to address. The City has done a good job in the last ten years shaping proposals made by private property owners to improve their quality and to integrate developments into the neighborhood--matters such as light pollution, noise pollution, building quality, architecture, traffic and parking impacts. That can and should be our focus on this development as well.

In my years of service, I've spoken up only rarely to "stop" a development: this was when that property use was a fast food restaurant, a dollar store, and a poorly-maintained vacant lot (a project delayed for years). In all three cases, I wasn't successful--because the use in question was legal, despite my personal preference for a different, better use. In the case of the Barry Buick proposed development, the quality of the proposed project far exceeds a fast food restaurant, dollar store, or vacant lot.

Either way, I look forward to working with you to help integrate whatever gets developed there as smoothly as possible into the neighborhood.

Sincerely,
Tom
Rosewood Avenue homeowner

Tom Bullock
Lakewood City Council at Large
216-395-7LWD (-7593)
Report-a-problem free smart phone app: tinyurl.com/kjgsb2x
Report-a-Problem webform: tinyurl.com/qxkl5be
Sign up for emergency notifications: tinyurl.com/q5budby
How was our service?: <http://tinyurl.com/qgus4sd>

Tom Bullock
Lakewood City Council at Large
216-395-7LWD (-7593)
Report-a-problem free smart phone app: tinyurl.com/kjgsb2x
Report-a-Problem webform: tinyurl.com/qxkl5be
Sign up for emergency notifications: tinyurl.com/q5budby
How was our service?: <http://tinyurl.com/qgus4sd>

From: Jeremy Schwerdt <jeremyschwerdt@gmail.com>
Sent: Wednesday, March 20, 2019 7:56 PM

To: markzody@cox.net

Cc: Rader, Tristan; O'Leary, Sam; Anderson, David; Litten, John; O'Malley, Daniel; Bullock, Tom; George, Meghan; Summers, Mike; Planning Dept

Subject: Barry Buick Development Site

Hi Mark,

I received your letter regarding Jerome Solove Development's proposed "luxury" apartments in the Barry Buick site. I wanted to let you know that I stand with you in opposition to an unnecessary and irresponsible project.

Attached is a copy of the letter I provided to Sam O'Leary and the Planning and Development Department. I was also able to voice these concerns during the ABR meeting on 3/14/19.

If there is anything that I can do you help you and our community, please let me know. I look forward to collaborating with you.

Best regards,

Jeremy Schwerdt
1335 Brockley Avenue
Lakewood, OH 44107
216/905-8468 (cell)
jeremyschwerdt@gmail.com

Schwarz, Johanna

From: Erin Bell <ebellempire@gmail.com> on behalf of Erin Bell
<erin.joseph.bell@gmail.com>
Sent: Thursday, March 21, 2019 5:40 PM
Cc: Beki Bell
Subject: Steve Barry Buick

To Whom It May Concern,

As a resident of Orchard Grove Avenue, I am deeply concerned about the planned housing development at the former site of Steve Barry Buick. In particular, I am shocked at the apparent lack of planning oversight regarding the number of allotted parking spaces.

Having lived off Coventry Road in Cleveland Heights for many years before ending up in Lakewood, I can attest that building housing without careful consideration of parking spaces can be a disaster, both for nearby homeowners and for the people living in apartments with limited parking. When I lived in Coventry, I actually ended up selling my car because I was tired of dealing with the constant stress of parking. At one point, I found one of the rare legal spots and left my car there for about 4-5 months, which I'm sure we don't want to see happening in Lakewood. Most people cannot just abandon or sell their car and decide to take the bus instead (it would be nice if our transit system was that usable for everyone). At least in Coventry they had a reasonable excuse: most of the housing dates back to the early 20th century, before every household had at least one car and usually two. In 2019 Lakewood, it is an utter failure to construct new housing without considering the impact on available parking.

Lakewood is an easy place to live and we should keep it that way for renters and homeowners alike. While none of us want to see huge wasteful parking lots, reasonably-convenient parking must be among the top priorities for any modern housing project. This can and should mean scaling back the number of units in a building to match available parking accommodations. If there is only room for 186 parking spots, then perhaps there should only be 186 units (or fewer). If a developer insists that this imposes a financial burden, find another developer or build a park. The profit margin of an investor is not my problem, but poor urban planning is.

I hope the city will work to refine the building plan so that there is sufficient parking *on-site* for all residents of any future housing developments in Lakewood.

Erin Bell
1447 Orchard Grove Avenue

Schwarz, Johanna

From: James O'Barsky <obarskyjames@gmail.com>
Sent: Friday, March 22, 2019 3:46 PM
To: Rader, Tristan; Anderson, David; Colin Dussault; Planning Dept; O'Leary, Sam; Mark Zody
Subject: Proposal at Barry Buick property

My name is Jim O'Barsky I live at 1419 Orchard Grove Ave. I have lived here since 2000 and in Lakewood since 1980.

When this proposal was first brought to our attention and we went on line to see what it looked like we were shocked and concerned. We soon realized this was progress and these empty lots should be developed and we could live with that. Then the details started coming in and we realized this is not beneficial to the neighborhood the tenants or the neighbors. Parking is on the first floor only, a building footprint that goes from sidewalk to sidewalk and a 12' buffer at the houses and now lets throw a 150 apartments into the mix. This started off as a good idea but sure went south in a hurry.

The sheer greed of this developer is evident in garage spaces to apartments there is enough profit to be made by continuing the garage spaces up to the third floor in both buildings. this developer does not care about the tenants or the neighbors he would rather have them looking in each others windows. The view in Lakewood is a big deal to home owners and tenants alike if you don't think so look at the west wall of the north building why do you think there's no apartments there?..... there's a 3 story apartment complex there.

I hope this does not fall on deaf ears. This could be a beautiful project if we just listen to each other and do what's right for the community and not the profit.

Thank you for letting me air my views.

Respectfully;

Jim O'Barsky

Schwarz, Johanna

From: Colin Dussault <colindussault@gmail.com>
Sent: Friday, March 22, 2019 5:52 PM
To: James O'Barsky
Cc: Rader, Tristan; Anderson, David; Planning Dept; O'Leary, Sam; Mark Zody
Subject: Re: Proposal at Barry Buick property

I agree with you.

On Fri, Mar 22, 2019, 3:46 PM James O'Barsky <obarskyjames@gmail.com> wrote:

My name is Jim O'Barsky I live at 1419 Orchard Grove Ave. I have lived here since 2000 and in Lakewood since 1980.

When this proposal was first brought to our attention and we went on line to see what it looked like we were shocked and concerned. We soon realized this was progress and these empty lots should be developed and we could live with that. Then the details started coming in and we realized this is not beneficial to the neighborhood the tenants or the neighbors. Parking is on the first floor only, a building footprint that goes from sidewalk to sidewalk and a 12' buffer at the houses and now lets throw a 150 apartments into the mix. This started off as a good idea but sure went south in a hurry.

The sheer greed of this developer is evident in garage spaces to apartments there is enough profit to be made by continuing the garage spaces up to the third floor in both buildings. this developer does not care about the tenants or the neighbors he would rather have them looking in each others windows. The view in Lakewood is a big deal to home owners and tenants alike if you don't think so look at the west wall of the north building why do you think there's no apartments there?..... there's a 3 story apartment complex there.

I hope this does not fall on deaf ears. This could be a beautiful project if we just listen to each other and do what's right for the community and not the profit.

Thank you for letting me air my views.

Respectfully;

Jim O'Barsky

John D. Granzier
Merry Arts Pub & Grille
15607 ½ Detroit Ave.
Lakewood, Ohio 44107

April 3, 2019

To Whom It May Concern:

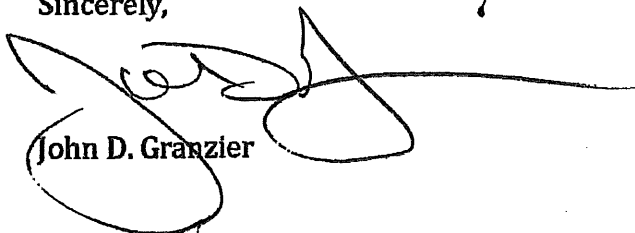
My name is John Granzier and I have been the owner of Merry Arts Pub & Grille for 19 years. I also recently purchased the property in which the former business "Jammy Buggers" occupied and will have a small part of ownership where Lindy's restaurant will soon open.

The purpose of this letter today is to formally voice my support for the Barry—Mixed Use Community Conceptual Design Project proposed for the Barry Buick property. From the information I have learned, as well as viewing the drawings for proposed dwellings, it is my personal opinion that this project will have far reaching positive effects for not only this area of Lakewood, but for the City of Lakewood as a whole.

This project will further strengthen the areas stemming from "Downtown Lakewood" going west on Detroit. Obviously this project will bring new tax dollars to our City, as well as bring more people to the area that will proudly call Lakewood home. The only downside, in my opinion, would be that our friends currently at "Bobby O's" would have to relocate.

This is becoming an exciting time for our section of Lakewood, which has experienced slower growth than many other areas of the City over recent years. With the new restaurant opening soon, this proposed project and other developments under way, there will surely be revitalization to this area—only making our unique city greater. It seems to be a wonderful opportunity, which I hope we don't let pass us by.

Sincerely,



John D. Granzier

Schwarz, Johanna

From: Jesse Shedden <jesseshedden@gmail.com>
Sent: Tuesday, April 2, 2019 2:04 PM
To: Planning Dept; Milius, Katelyn; Sylvester, Bryce
Cc: jbetz83@gmail.com; Ben Hockenull; Nicole Shedden; kelliott@chromiumblack.com
Subject: Planning Commission Feedback - Downtown Development
Attachments: Downtown Development Traffic.pptm

Afternoon,

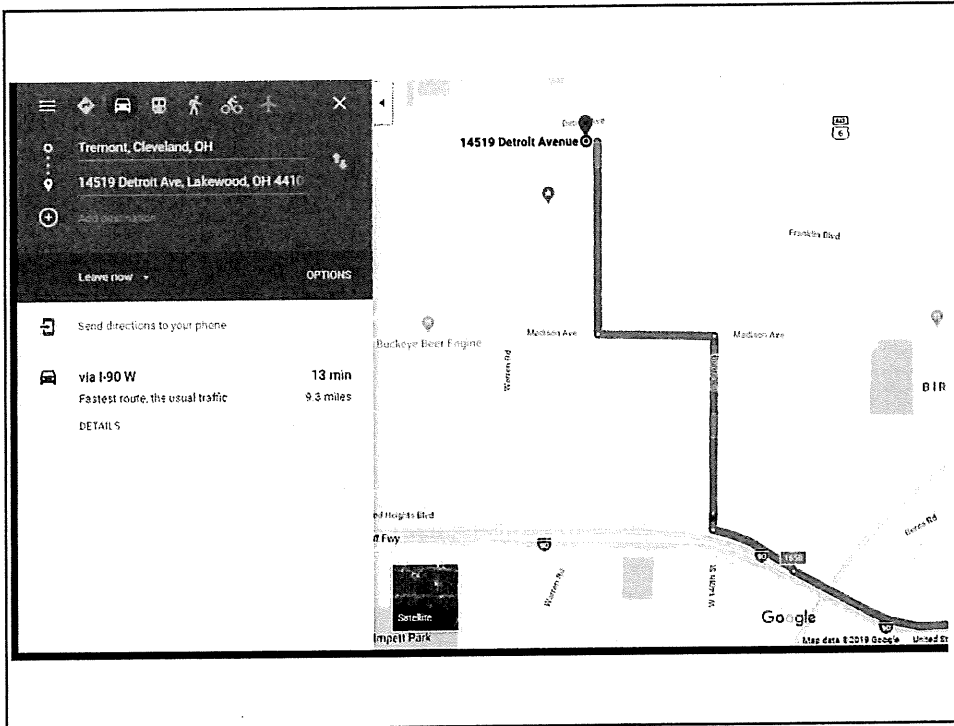
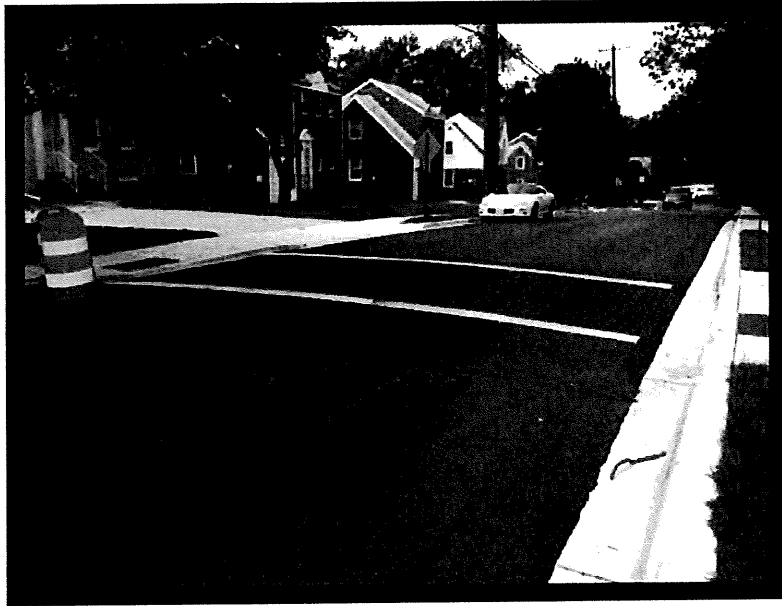
I wanted to raise several concerns in regards to the new downtown development and the increased traffic that will bring prior to this Thursday's meeting. Below are my main concerns and I also attached a PowerPoint that gives some additional context.

1. Speed on Marlowe and Belle
 - o Already a (fast) through street with people avoiding Warren and Bunts
 - o I would like to recommend speed tables to slow traffic down and also double as crosswalks to the townhouses and paseo. (PPT page 1)
2. Traffic on Marlowe crossing Franklin (especially going North from Madison)
 - o Currently google maps takes anyone coming from the east on I-90 to the Bunts exit and then left onto Madison and north on Marlowe which will create an issue at Franklin and Marlowe with more traffic crossing over. (PPT page 2)
 - o With traffic lights at Lincoln and Belle already in place can a four way stop with crosswalks (PPT page 3) or a mini traffic circle (PPT page 4) be researched?
3. Parking
 - o Will the spaces in front of the townhouses be metered?
 - o With the retail and commercial element will there be a resident sticker to park on the east side of Marlowe? Want to avoid parking on the street always being taken up by people working in the new complex if they do not have access to the garage through their employer.
 - This was an issue with construction of the new health center. The construction crew consistently took up the street parking.
 - Was not an issue with the hospital because there was not street parking on Marlowe from 8am to 8pm.
4. Headlights into existing homes when exiting parking garage and townhouses onto Marlowe & Belle
 - o Are Marlowe and Belle wide enough at those points to allow for a median to be placed in center of the street as a barrier to the existing homes? (PPT page 5) Can the barrier have landscaping tall enough to block headlights without limiting visibility too much?

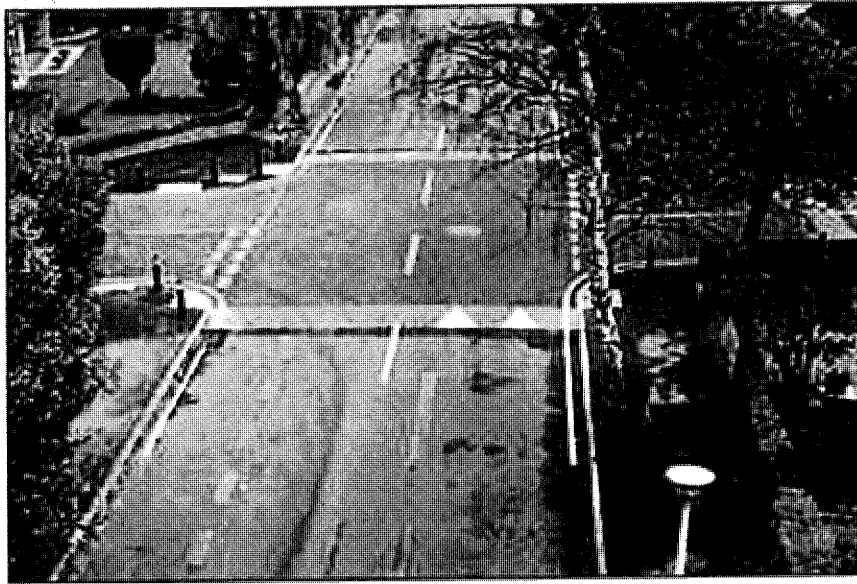
Thank you for considering these concerns and I look forward to the meeting on Thursday. We have been very happy with the updates Carnegie and the RDL teams have made on the site itself and want to make sure the surrounding areas are prepared also.

Jesse Shedden
1488 Marlowe

Speed Table Options for Marlowe



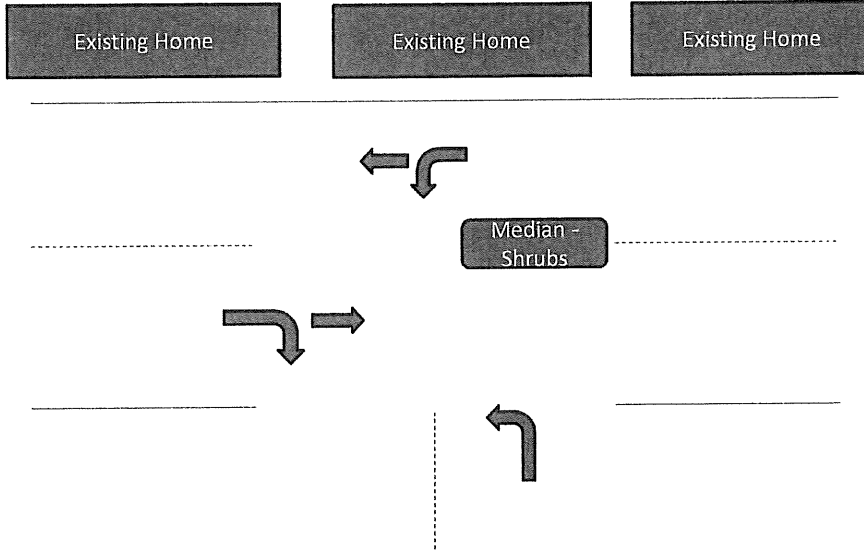
Franklin & Marlowe Options – Speed table with cross walk and 4-way stop



Franklin & Marlowe Options – mini traffic circle with cross walk



Garage and Townhome Exit – Will cut down on headlights into existing home



Schwarz, Johanna

From: william shie <wdshie56@gmail.com>
Sent: Thursday, April 4, 2019 5:11 PM
To: Planning Dept
Subject: Barry Buick

Dear Ms. Milious,

In reference to Mr. Soloves plans for Barry Buick I am still vehemently opposed to the proposed development. I personally have a lot to lose property value wise with the complete blocking of any available sunlight from dusk to dawn. Who is going to compensate me for this loss of value and desirability of my property? Also the parking issue I believe needs more thorough review, we already have problems with parking in our neighborhood and this project is only going to exaggerate this problem. Mr Solove has a lot down the street he is proposing to use for parking, but would you be willing to walk a block to park your car after a long day at work? I think not. As this area is only for tenants what will happen to the displaced people on our streets?

Thank you for listening to my concerns,

William Shie
1368 Brockley

Schwarz, Johanna

From: Sheila Weil <shesheheehee@yahoo.com>
Sent: Thursday, April 4, 2019 9:55 PM
To: Planning Dept
Subject: Re: Proposed Lakewood Apartment Complex at 1600 Detroit

Hello Planning and Development,

I reside at 1466 Rosewood Avenue, and I just left the Planning and Development Meeting at City Hall (4/4/19), and have a few thoughts that I would like to share regarding the proposed development at 1600 Detroit Avenue.

- First and foremost, I agree with the gentleman that essentially said that we do not need this development, that the current residents do not want it, and that it does not match the resident's vision of what Lakewood is. That is where my true beliefs lie, and I do not want to see this at the top of my street.

- That being said, I would also like to address concerns about the proposed plans:

- The new height of the buildings--four stories on both sides of the street--is going to feel horrible. This is absolutely one of the worst aspects!

- Their 3 or 5 foot sidewalk is absolutely insane. Not only is that awful for people trying to walk on the street, but, when these buildings are too close to the main street, it makes pulling out from a side street extremely dangerous and difficult. I already struggle with turning right on Detroit from Rosewood (near the Army/Navy building). There is often someone parked illegally where a space does not exist at that corner, which in turn makes your sight line nil in trying to view oncoming traffic. I can not imagine how nonexistent my sight line would be if I wanted to turn left, with a building so close to the street.

- Traffic is extremely untenable at certain times already on Detroit. Even trying to make a right turn onto Detroit from Rosewood can take several minutes. I can not imagine how horribly adding up to 400(?) new residents will impact that.

- Parking is still an issue, regardless if they are adding a few more spaces. The south side development has 70 proposed units, with 78 spaces. Really? I do not think that that is sufficient for 70 units. This is also unfair to the potential new residents. This extra traffic and cars are going to seriously degrade the surrounding streets.

I am not sure that I understand the inner garbage area, and how that would work. I am disappointed that on the south side development it is 12 feet away from the nearest house (that is horrible for that resident!), and that I would have to walk past the weird garbage room when I walk up to the top of my street.

As a Lakewood resident for the last 20 years, and a Rosewood Avenue for the last 13 years, I am really disappointed that this complex is even being considered. This chips away at the very character that makes Lakewood, Lakewood.

Sincerely,

Sheila Weil
1466 Rosewood Avenue

Schwarz, Johanna

From: Jeremy Schwerdt <jeremyschwerdt@gmail.com>
Sent: Friday, April 5, 2019 8:41 PM
To: Summers, Mike
Cc: Planning Dept; markzody@cox.net; obarskyjames@gmail.com; Bach, Maureen; Bullock, Tom; O'Malley, Daniel; Anderson, David; George, Meghan; Litten, John; Rader, Tristan; O'Leary, Sam; Butler, Kevin; Gelsomino, Antoinette; Gilman, Scott; Pae, Jennifer; Beno, Joe; Malley, Tim; Meyers, Joseph; Coletta, Michael; Strachan, Shannon; Sylvester, Bryce; Yousefi, Jean
Subject: Re: Development in Lakewood- Barry buick site

Mayor Summers,

Thank you so much for your advice.

As Ward 2 comes together to form a singular voice in opposition to JSDI's proposed apartments, any and all help from the Mayor's Office and the City of Lakewood would be appreciated. Our goal is to retain the vibrancy and uniqueness of our neighborhood as Lakewood continues to grow. My understanding is that community feedback and City influence can help shape the integration of a project this large.

The Women's Pavilion in Lakewood Park would be an amazing venue for a community meeting, especially if you and City staff can attend. How can we coordinate so that the City and residents can meet together?

I look forward to speaking with you soon.

Best regards,

Jeremy Schwerdt
1335 Brockley Avenue
Lakewood, OH 44107
216/905-8468 (cell)
jeremyschwerdt@gmail.com

On Fri, Apr 5, 2019 at 11:47 AM Summers, Mike <Mike.Summers@lakewoodoh.net> wrote:

Jeremy,

Thanks for sharing your views. I always encourage neighbors to meet and discuss projects. I ask the following to ensure your discussions are informed and thoughtful:

Development and investment in Lakewood is challenging and fraught with tradeoffs. We seek vibrant commercial corridors with desirable walkable destinations. On the other hand, we seek vibrant residential neighborhoods which are mere feet away from our commercial corridors.

Schwarz, Johanna

From: Summers, Mike
Sent: Friday, April 5, 2019 11:46 AM
To: Jeremy Schwerdt; Planning Dept
Cc: markzody@cox.net; obarskyjames@gmail.com; Bach, Maureen; Bullock, Tom; O'Malley, Daniel; Anderson, David; George, Meghan; Litten, John; Rader, Tristan; O'Leary, Sam; Butler, Kevin; Gelsomino, Antoinette; Gilman, Scott; Pae, Jennifer; Beno, Joe; Malley, Tim; Meyers, Joseph; Coletta, Michael; Summers, Mike; Strachan, Shannon; Sylvester, Bryce; Yousefi, Jean
Subject: Development in Lakewood- Barry buick site

Jeremy,

Thanks for sharing your views. I always encourage neighbors to meet and discuss projects. I ask the following to ensure your discussions are informed and thoughtful:

Development and investment in Lakewood is challenging and fraught with tradeoffs. We seek vibrant commercial corridors with desirable walkable destinations. On the other hand, we seek vibrant residential neighborhoods which are mere feet away from our commercial corridors.

I ask that you include in your community meeting the following:

- Include the property seller- your long time neighbor the Barry Family. They are the ultimate controller of what deal is accepted.
- Include School Board members who will derive the lion share of tax collection benefit
- Include neighbors from Woodward to share their experience of having a national chain in their neighborhood. The city has worked to minimize the impact of this type of use in our neighborhoods.
- Include city representatives to explain how zoning determines land use and the limited control cities have in the application of zoning. In this instance, to also make sure neighbors understand the principle of conditional use approval which provides long term land use control by the city on behalf of its neighbors.
- In this instance, I would exclude the developer.
- I would include the other commercial property owners/business owners in the neighborhood to gain their perspective about the relative importance of vibrancy to their success.
- I would personally hope to attend to share my views on all of the above.

I offer the Women's pavilion in Lakewood Park as an option. The mayor's office would be glad to help with all of the above.

Michael P Summers
Mayor, City of Lakewood, Ohio
216-529-6600
Mike.summers@lakewoodoh.net

From: Jeremy Schwerdt [<mailto:jeremyschwerdt@gmail.com>]

Sent: Thursday, April 04, 2019 10:29 PM

To: Planning Dept

Cc: markzody@cox.net; obarskyjames@gmail.com; O'Leary, Sam; George, Meghan; Rader, Tristan; Summers, Mike

Subject: Thank you

Hi Bryce,

I wanted to thank you for the opportunity to address the Planning Commission and the City of Lakewood at tonight's Planning Commission meeting.

Prior to JSDI's proposal for the Barry Buick site I've never felt the need to attend city meetings and/or speak my opinion. Admittedly, I came into the meeting fairly discouraged. My experience with the City of Lakewood so far has been that several staff members - including in the Planning/Development Department and the City Council - have little or no response when contacted. I genuinely do not feel as though the City is listening to my concerns or that anyone cares. However, after seeing how many residents attended tonight's meeting (and last month's ABR meeting), it is empowering to know that I am not alone in my opposition to this project.

With that in mind, Ward 2 is beginning to come together. Mark, Jim and I are in the early stages of planning a community meeting to mobilize Ward 2 against JSDI's apartments. Our intention is to stop this project and we'd like to work with the City. Although, the City and residents may disagree on the project, I believe that an open dialog will likely provide the best possible outcome. Once I have a date, I'd love for you and members of the City Council to attend. Tristan has already expressed interested in our cause. I've also received positive feedback from Sam and Meghan - two mayoral candidates. I hope that the City of Lakewood understands how big of an issue JSDI's proposal is to the people living around it.

I look forward to hearing your thoughts.

Best regards,

Jeremy Schwerdt
1335 Brockley Avenue
Lakewood, OH 44107
216/905-8468 (cell)
jeremyschwerdt@gmail.com

Lakewood's mission in the application of Lean Six Sigma principles is to provide exceptional customer service that meets or exceeds our citizens' expectations and maintains a vibrant, competitive community.

Schwarz, Johanna

From: Marty and Gail Higgins <martingail@live.com>
Sent: Monday, April 8, 2019 5:18 PM
To: Planning Dept
Subject: The Barry Buick Site

As a concerned resident, I want to state some opinions I have regarding the apartments planned for Detroit Ave.

1. I would like to see condos rather than rental units to insure non-transient residents.
2. The stone building, The Detroit Bank at Cranford should set the design trend in so much as it mimics the stone in the Masonic Temple, former Christian Science Church, Lakewood Methodist Church, the library and many other established Lakewood landmarks. For instance, the townhomes at W. 117 and Lake that fit into the landscape so much better than architecture such as McKinley Place.
3. Many of us would welcome the chance to purchase a local home with first floor masters and air conditioning as we leave our monster homes we raised our families in. There aren't any to be had.
4. Lastly, can the parking be out of sight, can there be green space, attractive signage, enough trash cans and welcoming benches.

Thank you for your consideration to these important matters.

Gail Higgins

- 1 project overview
- 2 building heights
- 3 building setbacks
- 4 lot coverage
- 5 permitted uses
- 6 parking diagram
- 7 truck turning diagrams
- 8 streetscape plan
- 9 landscaping
- 10 circulation
- 11 plaza
- 12 lighting

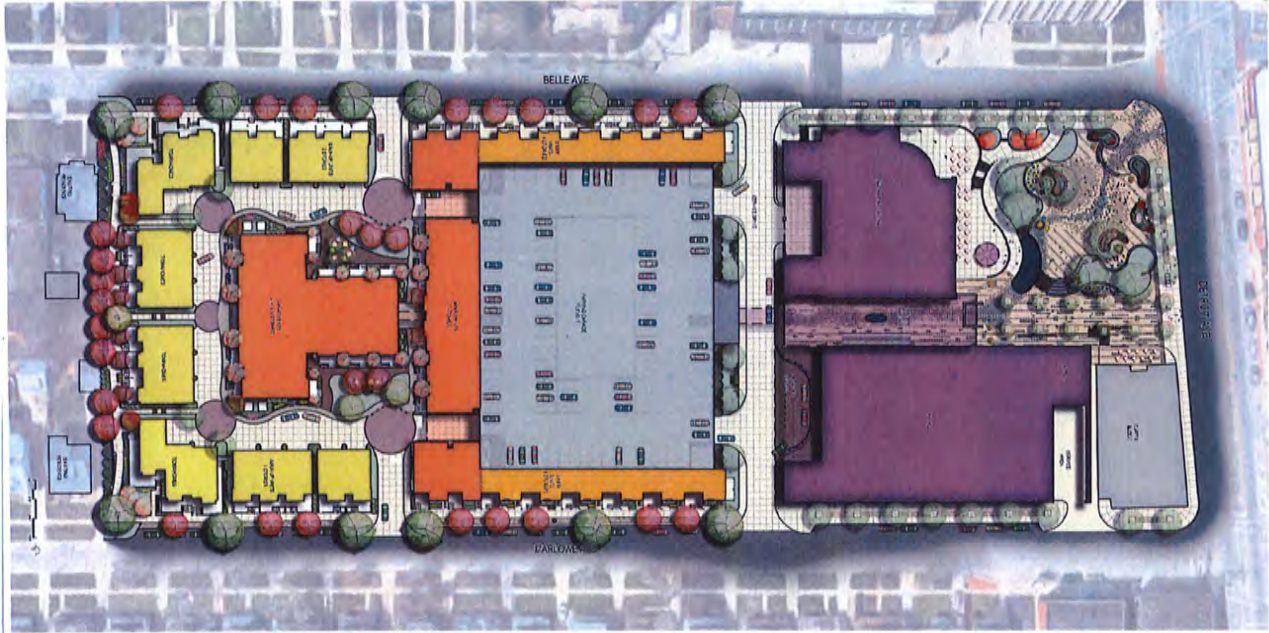
PLANNING COMMISSION AGENDA

May 2, 2019

- 1 site plan
- 2 rendered perspectives

PROJECT OVERVIEW

site plan one lakewood place



rendered perspective aerial looking north



rendered perspective aerial looking south

belnke
ARCHITECTS

CARNEGIE

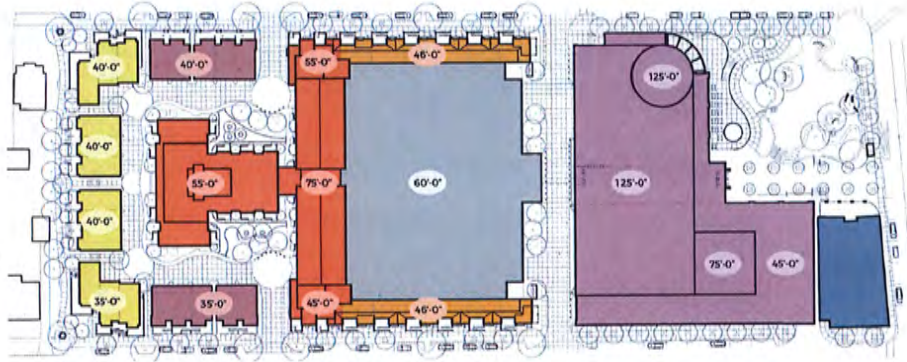
RDL
ARCHITECTS



- | | | | |
|---|---|----|---------------------------------|
| 1 | overall building height plan | 6 | Marlowe walk-up building height |
| 2 | commercial building height | 7 | Belle walk-up building height |
| 3 | garage building height | 8 | street townhome building height |
| 4 | apartment building height | 9 | Belle townhome building height |
| 5 | Marlowe brownstone liner unit building height | 10 | paseo townhome building height |

BUILDING HEIGHTS

overall plan with maximum building heights



- CURTIS BLOCK
RETAIL
- MIXED-USE COMMERCIAL
RETAIL + COMMERCIAL OFFICE
- GARAGE
PARKING
- BROWNSTONE LINERS
APARTMENT LIVING
- APARTMENT BUILDING
APARTMENT LIVING
- WALK-UPS
APARTMENT LIVING
- TOWNHOUSES
SINGLE FAMILY LIVING

BUILDING HEIGHT means the vertical distance measured from the lowest point from adjacent R.O.W. proposed finished grade at the front of the building as determined by the Commissioner to the highest point of the roof for flat roofs, to the deck line of mansard roofs, and the mean height between the bottom of the eaves and the top of the ridge for gable, hip and gambrel roofs, exclusive of the building's mechanical systems, chimneys, antennas, or structures necessary to access the roof including but not limited to elevated walkways, stair enclosures and ladders.

Building heights shown on this plan are the highest potential heights per building.

commercial building height



BUILDING HEIGHT means the vertical distance measured from the lowest point from adjacent R.O.W. proposed finished grade at the front of the building as determined by the Commissioner to the highest point of the roof for flat roofs, to the deck line of mansard roofs, and the mean height between the bottom of the eaves and the top of the ridge for gable, hip and gambrel roofs, exclusive of the building's mechanical systems, chimneys, antennas, or structures necessary to access the roof including but not limited to elevated walkways, stair enclosures and ladders.

garage building height



- 65'-0" central stair / elevator tower
- 60'-0" side stair tower
- 54'-6" top of screening
- 50'-0" sixth floor
- 40'-0" fifth floor
- 30'-0" fourth floor
- 20'-0" third floor
- 10'-0" second floor
- 0'-0" ground floor

BUILDING HEIGHT means the vertical distance measured from the average elevation of the proposed finished grade at the front of the building as determined by the Commissioner to the highest point of the roof for flat roofs, to the deck line of mansard roofs, and the mean height between the bottom of the eaves and the top of the ridge for gable, hip and gambrel roofs, exclusive of the building's mechanical systems, chimneys, antennas, or structures necessary to access the roof including but not limited to elevated walkways, stair enclosures and ladders.

apartment building height



- 75'-0" top of roof
- 60'-0" seventh floor
- 50'-0" sixth floor
- 40'-0" fifth floor
- 30'-0" fourth floor
- 20'-0" third floor
- 10'-0" second floor
- 0'-0" ground floor

BUILDING HEIGHT means the vertical distance measured from the lowest point from adjacent R.O.W, proposed finished grade at the front of the building as determined by the Commissioner to the highest point of the roof for flat roofs, to the deck line of mansard roofs, and the mean height between the bottom of the eaves and the top of the ridge for gable, hip and gambrel roofs, exclusive of the building's mechanical systems, chimneys, antennas, or structures necessary to access the roof including but not limited to elevated walkways, stair enclosures and ladders.

Marlowe brownstone liner unit building height



BUILDING HEIGHT means the vertical distance measured from the lowest point from adjacent R.O.W, proposed finished grade at the front of the building as determined by the Commissioner to the highest point of the roof for flat roofs, to the deck line of mansard roofs, and the mean height between the bottom of the eaves and the top of the ridge for gable, hip and gambrel roofs, exclusive of the building's mechanical systems, chimneys, antennas, or structures necessary to access the roof including but not limited to elevated walkways, stair enclosures and ladders.

Marlowe walk-up building height



BUILDING HEIGHT means the vertical distance measured from the lowest point from adjacent R.O.W, proposed finished grade at the front of the building as determined by the Commissioner to the highest point of the roof for flat roofs, to the deck line of mansard roofs, and the mean height between the bottom of the eaves and the top of the ridge for gable, hip and gambrel roofs, exclusive of the building's mechanical systems, chimneys, antennas, or structures necessary to access the roof including but not limited to elevated walkways, stair enclosures and ladders.

Marlowe walk-up building height



BUILDING HEIGHT means the vertical distance measured from the lowest point from adjacent R.O.W. proposed finished grade at the front of the building as determined by the Commissioner to the highest point of the roof for flat roofs, to the deck line of mansard roofs, and the mean height between the bottom of the eaves and the top of the ridge for gable, hip and gambrel roofs, exclusive of the building's mechanical systems, chimneys, antennas, or structures necessary to access the roof including but not limited to elevated walkways, stair enclosures and ladders.

Belle walk-up building height



BUILDING HEIGHT means the vertical distance measured from the lowest point from adjacent R.O.W. proposed finished grade at the front of the building as determined by the Commissioner to the highest point of the roof for flat roofs, to the deck line of mansard roofs, and the mean height between the bottom of the eaves and the top of the ridge for gable, hip and gambrel roofs, exclusive of the building's mechanical systems, chimneys, antennas, or structures necessary to access the roof including but not limited to elevated walkways, stair enclosures and ladders.

Belle walk-up building height



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Marlowe street townhome building height



BUILDING HEIGHT means the vertical distance measured from the lowest point from adjacent R.O.W, proposed finished grade at the front of the building as determined by the Commissioner to the highest point of the roof for flat roofs, to the deck line of mansard roofs, and the mean height between the bottom of the eaves and the top of the ridge for gable, hip and gambrel roofs, exclusive of the building's mechanical systems, chimneys, antennas, or structures necessary to access the roof including but not limited to elevated walkways, stair enclosures and ladders.

Marlowe street townhome building height



BUILDING HEIGHT means the vertical distance measured from the lowest point from adjacent R.O.W. proposed finished grade at the front of the building as determined by the Commissioner to the highest point of the roof for flat roofs, to the deck line of mansard roofs, and the mean height between the bottom of the eaves and the top of the ridge for gable, hip and gambrel roofs, exclusive of the building's mechanical systems, chimneys, antennas, or structures necessary to access the roof including but not limited to elevated walkways, stair enclosures and ladders.

Belle townhome building height



BUILDING HEIGHT means the vertical distance measured from the lowest point from adjacent R.O.W. proposed finished grade at the front of the building as determined by the Commissioner to the highest point of the roof for flat roofs, to the deck line of mansard roofs, and the mean height between the bottom of the eaves and the top of the ridge for gable, hip and gambrel roofs, exclusive of the building's mechanical systems, chimneys, antennas, or structures necessary to access the roof including but not limited to elevated walkways, stair enclosures and ladders.

Belle townhome building height



- 36'-8" midpoint of roof
- 22'-0" third floor
- 11'-6" second floor
- 2'-0" first floor
- 0'-0" ground

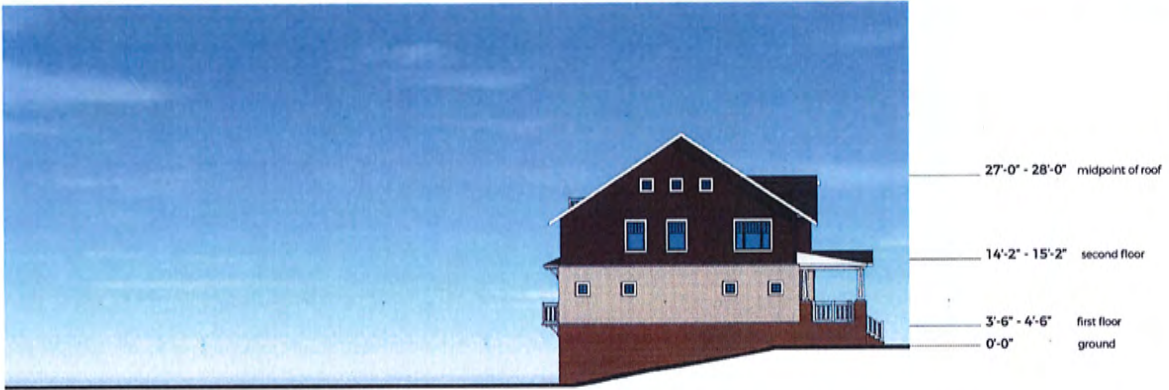
BUILDING HEIGHT means the vertical distance measured from the lowest point from adjacent R.O.W, proposed finished grade at the front of the building as determined by the Commissioner to the highest point of the roof for flat roofs, to the deck line of mansard roofs, and the mean height between the bottom of the eaves and the top of the ridge for gable, hip and gambrel roofs, exclusive of the building's mechanical systems, chimneys, antennas or structures necessary to access the roof including but not limited to elevated walkways, stair enclosures and ladders.

paseo townhome building height



- 27'-0" - 28'-0" midpoint of roof
- 14'-2" - 15'-2" second floor
- 3'-6" - 4'-6" first floor
- 0'-0" ground

BUILDING HEIGHT means the vertical distance measured from the lowest point from adjacent R.O.W, proposed finished grade at the front of the building as determined by the Commissioner to the highest point of the roof for flat roofs, to the deck line of mansard roofs, and the mean height between the bottom of the eaves and the top of the ridge for gable, hip and gambrel roofs, exclusive of the building's mechanical systems, chimneys, antennas, or structures necessary to access the roof including but not limited to elevated walkways, stair enclosures and ladders.

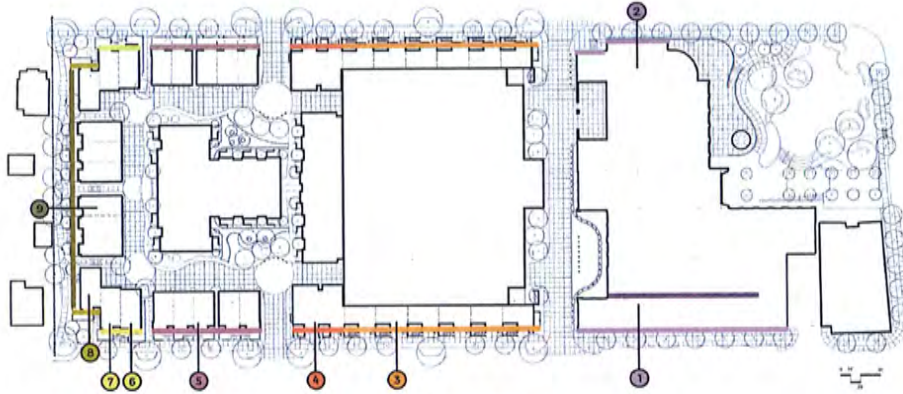


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1 site plan with setbacks

BUILDING SETBACKS

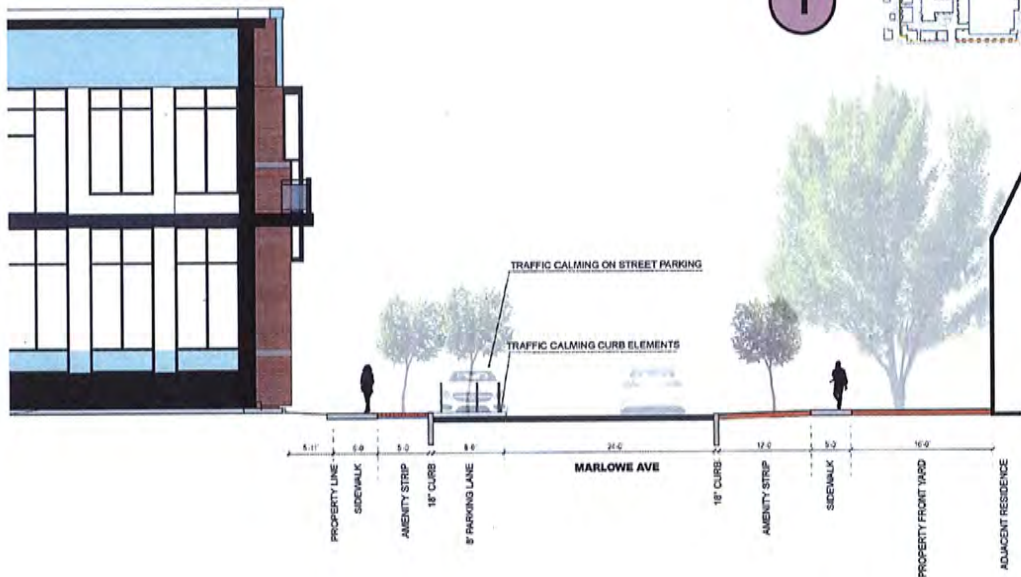
plan with setbacks



- MIXED-USE COMMERCIAL
 RETAIL + COMMERCIAL OFFICE
 ● 3'8" - 16'4"
 ● 33'10" - 35'0"
- BROWNSTONE LINERS
 APARTMENT LIVING
 9' - 3'0"
- APARTMENT BUILDING
 APARTMENT LIVING
 2'0" - 3'4"
- WALK-UPS
 APARTMENT LIVING
 1'0" - 1'4"
- TOWNHOUSES
 SINGLE FAMILY LIVING
 ● 4' - 2' - 6"
 ● 2'27"
 ● 3'00" from property line

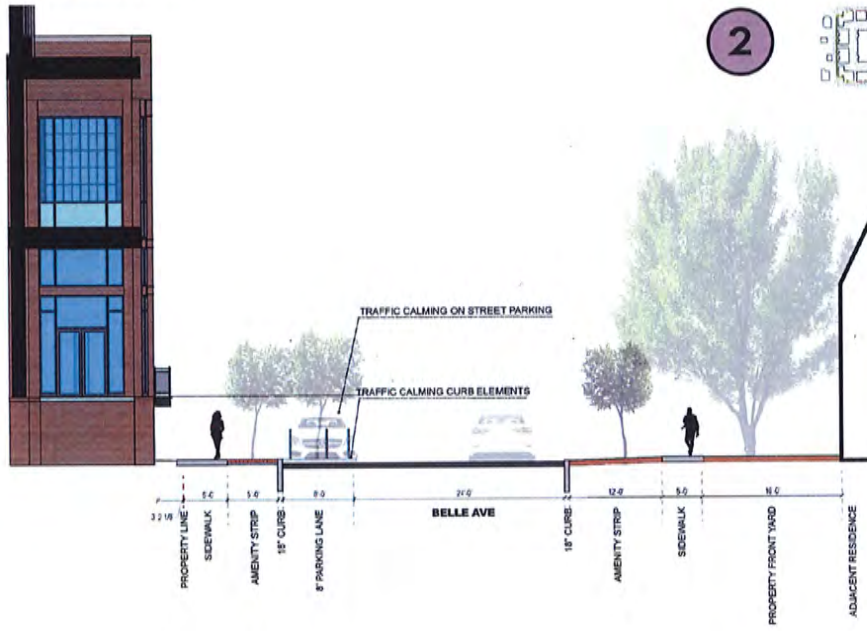
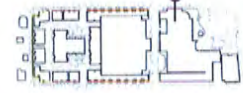
BUILDING SETBACK the unoccupied area between the public or private right-of-way and the building line.

section commercial building with setbacks



section commercial building with setbacks

2

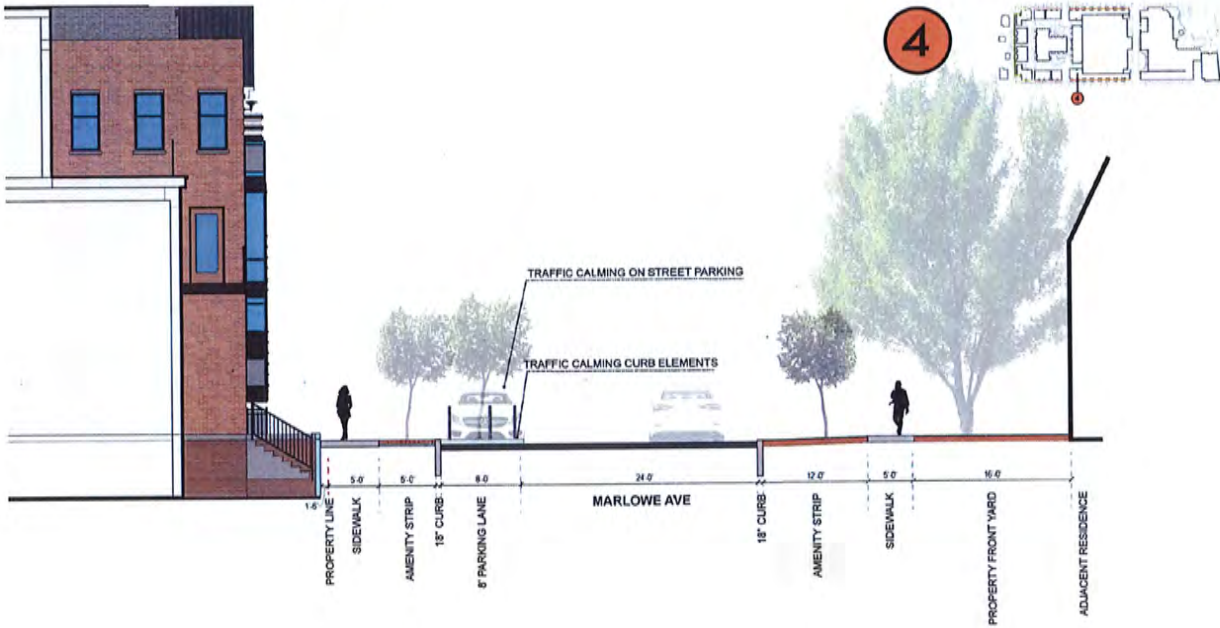


section liner brownstones with setbacks (typ)

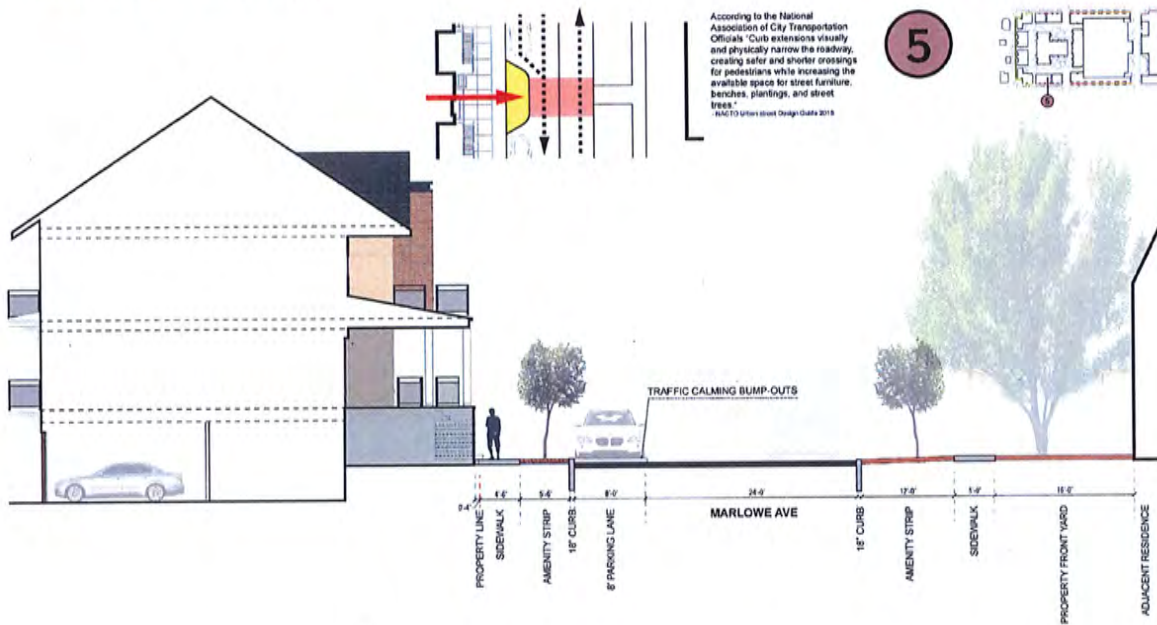
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section liner brownstones with setbacks (typ)

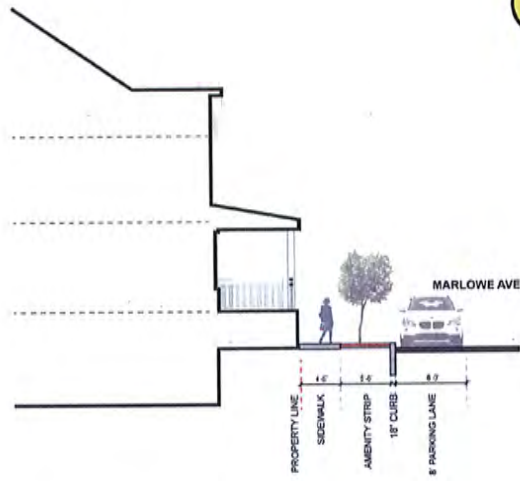


section walk-ups with setbacks (typ)



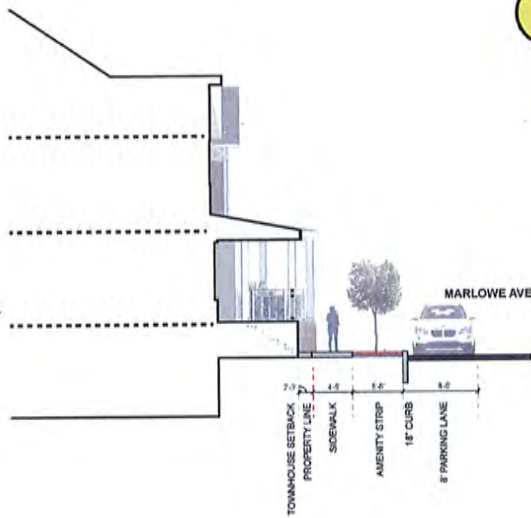
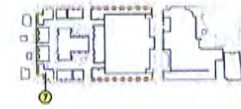
section townhouses with setbacks

6



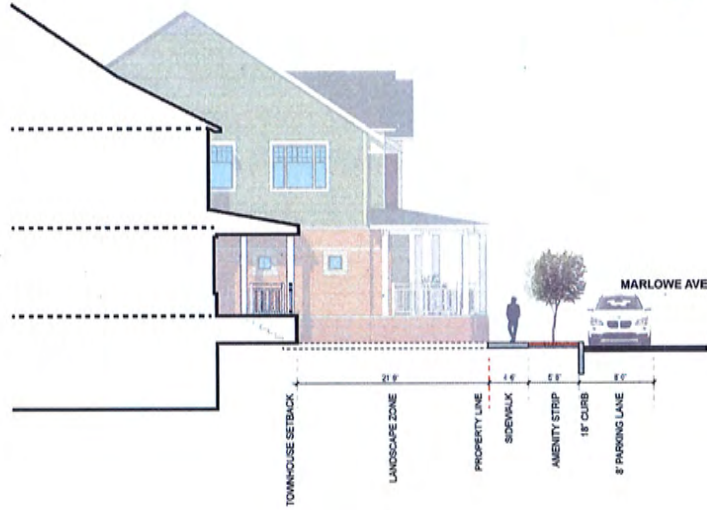
section townhouses with setbacks

7



section townhouses with setbacks (typ)

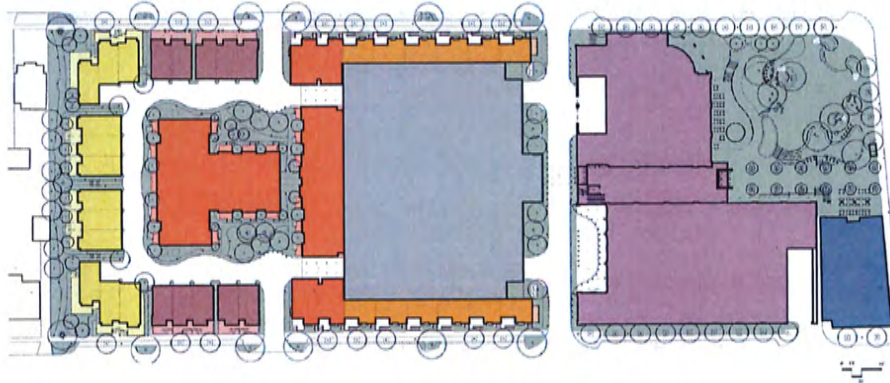
8



1 site plan featuring lot coverage

LOT COVERAGE

site plan lot coverage

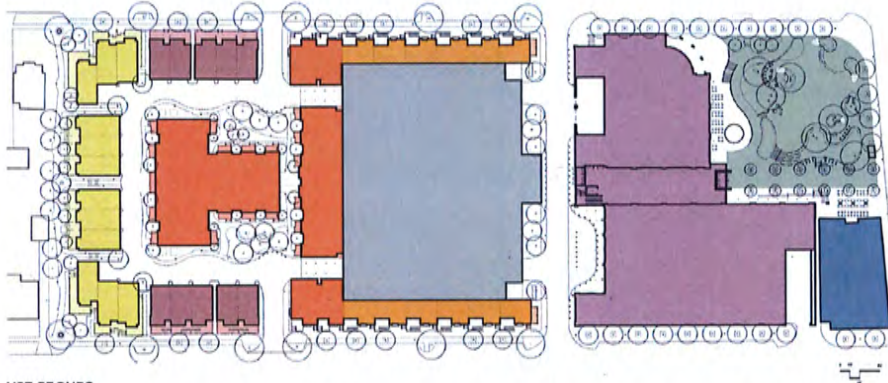


- 2.89% CURTIS BLOCK
RETAIL
- 17.69% MIXED-USE COMMERCIAL
RETAIL + COMMERCIAL OFFICE
- 17.22% GARAGE
PARKING
- 3.29% BROWNSTONE LINERS
APARTMENT LIVING
- 9.65% APARTMENT BUILDING
APARTMENT LIVING
- 4.04% WALK-UPS
APARTMENT LIVING
- 5.59% TOWNHOUSES
SINGLE FAMILY LIVING
- 60.0% TOTAL
- 25.0% URBAN OPEN SPACE +
COMMON OPEN SPACE
OUTDOOR AMENITY SPACE

LOT COVERAGE means that percent of the lot area occupied by a structure, including any part thereof, which extends beyond the foundation; roof overhangs of twelve (12) inches or less, including any rain gutter, shall be excluded from this calculation. For the purposes of this diagram, urban open space and common open space are calculated as a percentage of the overall site and shown in green, though not all surfaces are grass or landscaping (tree lawns outside the property line are not included)

1 site plan featuring permitted uses

PERMITTED USES



USE GROUPS

RESIDENTIAL USE GROUPS

- Rental Apartments / Townhomes
- For-Sale Townhomes

COMMERCIAL USE GROUPS

- Mercantile
- Business
- Office
- Restaurants
- Hotel
- Indoor Commercial Recreation/Fitness Center
- Banquet Center
- Entertainment

PRIVATELY OWNED PUBLIC SPACE

A first-class, multi-functional community gathering space. This space consists of 0.5 acres of privately owned public space.

PRIVATELY OWNED PUBLIC SPACE

A first-class, multi-functional community gathering space. This space consists of 0.5 acres of privately owned public space.

OUTDOOR DINING

Outdoor Dining shall be governed by Chapter 116I of Lakewood's Zoning Code. The Planning Commission may exceed the maximum percentage of seats allowable on a case-by-case basis provided the seats are in the outdoor dining areas.

COMMERCIAL USE GROUPS

- CURTIS BLOCK RETAIL
- MIXED-USE COMMERCIAL RETAIL 79K SF 100K MAX SF
- COMMERCIAL OFFICE 101K SF 140K - MAX SF

• GARAGE PARKING

RESIDENTIAL USE GROUPS

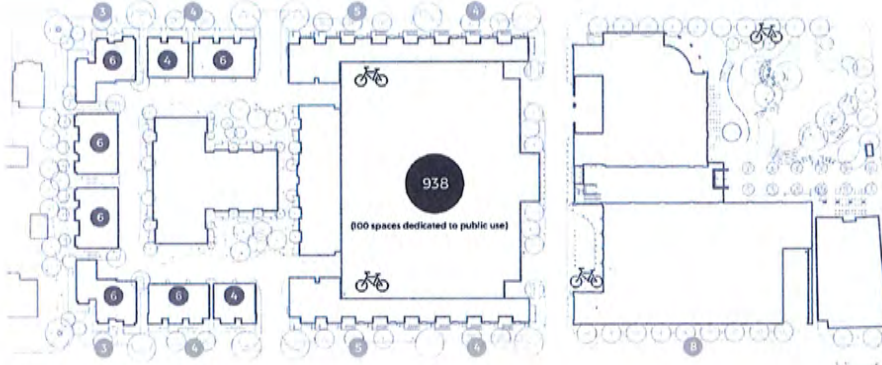
- BROWNSTONE LINERS MULTIFAMILY LIVING 36 UNITS
- APARTMENT BUILDING MULTIFAMILY LIVING 121 UNITS
- WALK-UPS MULTIFAMILY LIVING 20 UNITS
- TOWNHOUSES SINGLE FAMILY LIVING 12 UNITS
- PRIVATELY OWNED PUBLIC SPACE 5 ACRES

MAX. 200 UNITS ON SITE



- 1 parking standards site plan
- 2 garage parking
- 3 parking standards

PARKING DIAGRAM



PARKING STANDARDS

TOWNHOMES
Min. 1/dwelling unit; no max; 1 required space shall be in a garage. The front yard shall not be used for off-street parking except in the Lagoon District.
12 Townhomes = 12 Spaces, Enclosed

MULTI-FAMILY
Min. of 1/dwelling unit; max. of 2/dwelling unit. The front yard shall not be used for off-street parking except in the Lagoon District.
123 Apartments = 123 Spaces
36 Liner Units = 36 Spaces
20 Walk-up Units = 20 Spaces

RETAIL
Min. 1 for each 1,000 sq. ft. CFA; max. 2.5 for each 1,000 sq. ft. CFA
87,217 sf = 87 spaces

OFFICE
Min. 2 for each 1,000 sq. ft. CFA; max. 3.5 for each 1,000 sq. ft. CFA
127,956 sf = 256 spaces
534 spaces total Minimum

DEVELOPMENT AGREEMENT
No less than 100 parking spaces within the parking garage shall be made available for use by the public.

- 40 ON STREET PARKING
8'0" X 20'0"
- 44 PRIVATE GARAGE
- 938 PUBLIC GARAGE

LEVEL	SPACES
LOWER LEVEL S.O.G.	137
FIRST LEVEL	127
SECOND LEVEL	135
THIRD LEVEL	136
FOURTH LEVEL	136
FIFTH LEVEL	135
SIXTH LEVEL	116
TOTAL SPACES:	920

9'-0" x 18'-0" = 594 SPACES
8'-6" x 18'-0" = 326 SPACES
(35% OF GARAGE PARKING SPACES)
+18 HANDICAPPED SPACES

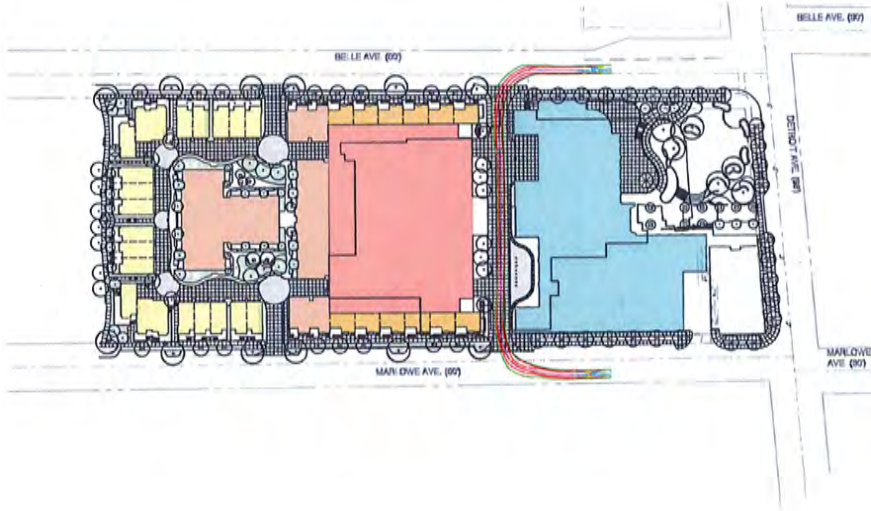
- GARAGE BICYCLE PARKING FOR RESIDENTS AND ON SITE EMPLOYEES.
- PUBLIC BICYCLE PARKING



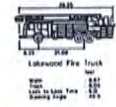
- 1 fire truck diagrams
- 2 garbage truck diagrams
- 3 service truck diagram

TRUCK TURNING DIAGRAMS

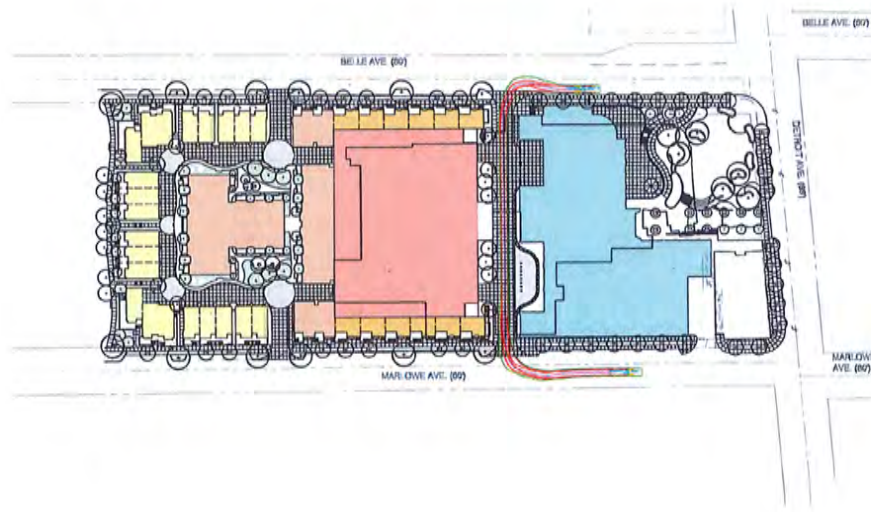
fire truck turning diagram



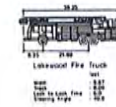
	PROPOSED
WALKWAY	[Color swatch]
WALKWAY WITH CURB	[Color swatch]
WALKWAY WITH CURB AND SIDEWALK	[Color swatch]
WALKWAY WITH CURB AND SIDEWALK WITH SIDEWALK	[Color swatch]
WALKWAY WITH CURB AND SIDEWALK WITH SIDEWALK AND SIDEWALK	[Color swatch]
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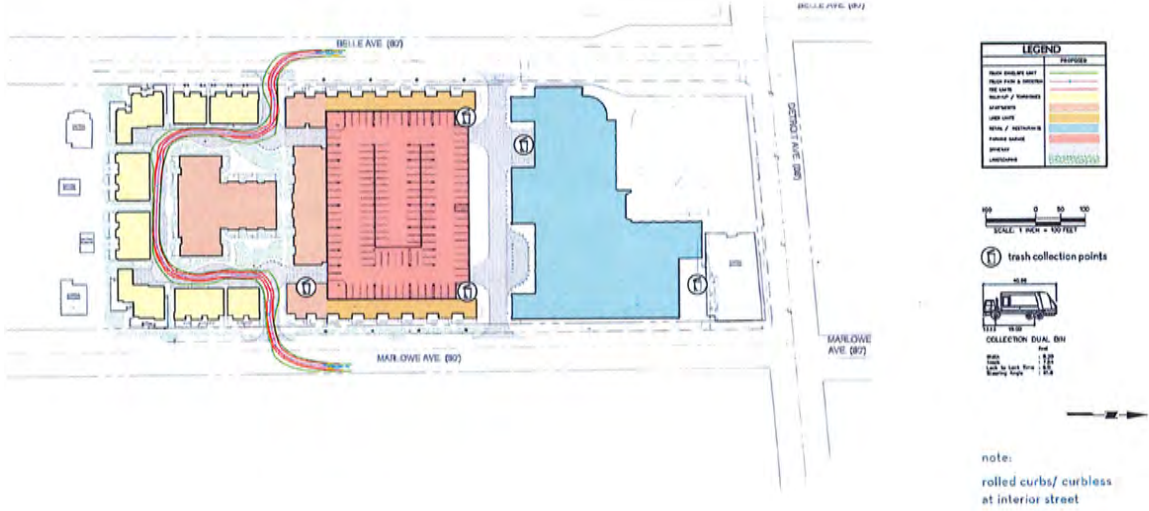
fire truck turning diagram



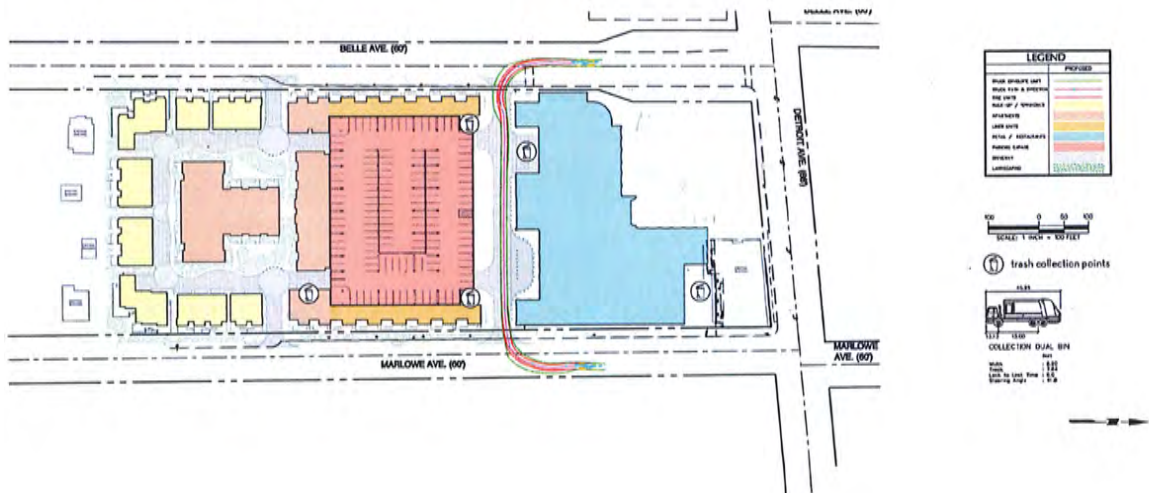
	PROPOSED
WALKWAY	[Color swatch]
WALKWAY WITH CURB	[Color swatch]
WALKWAY WITH CURB AND SIDEWALK	[Color swatch]
WALKWAY WITH CURB AND SIDEWALK WITH SIDEWALK	[Color swatch]
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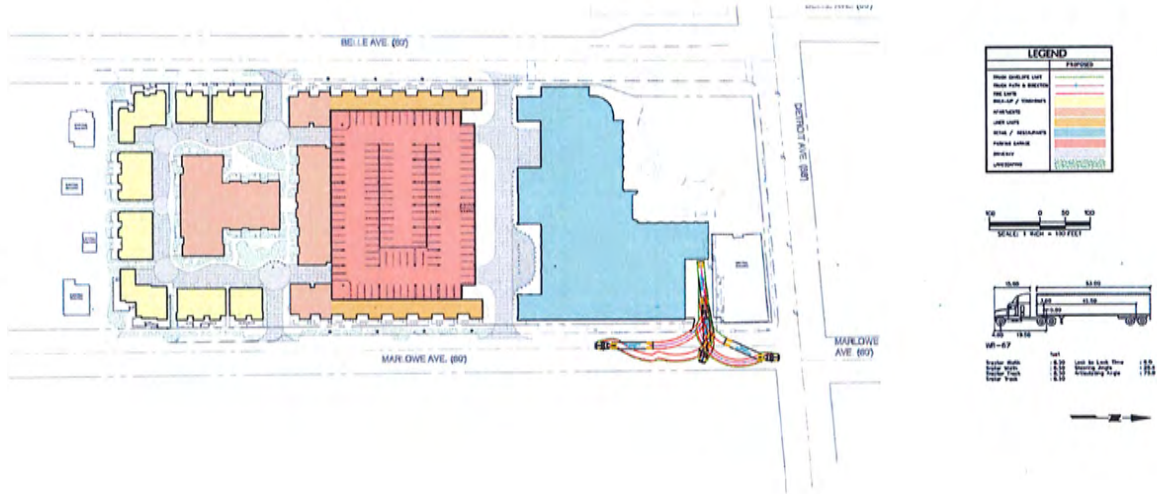


garbage truck turning diagram



garbage truck turning diagram

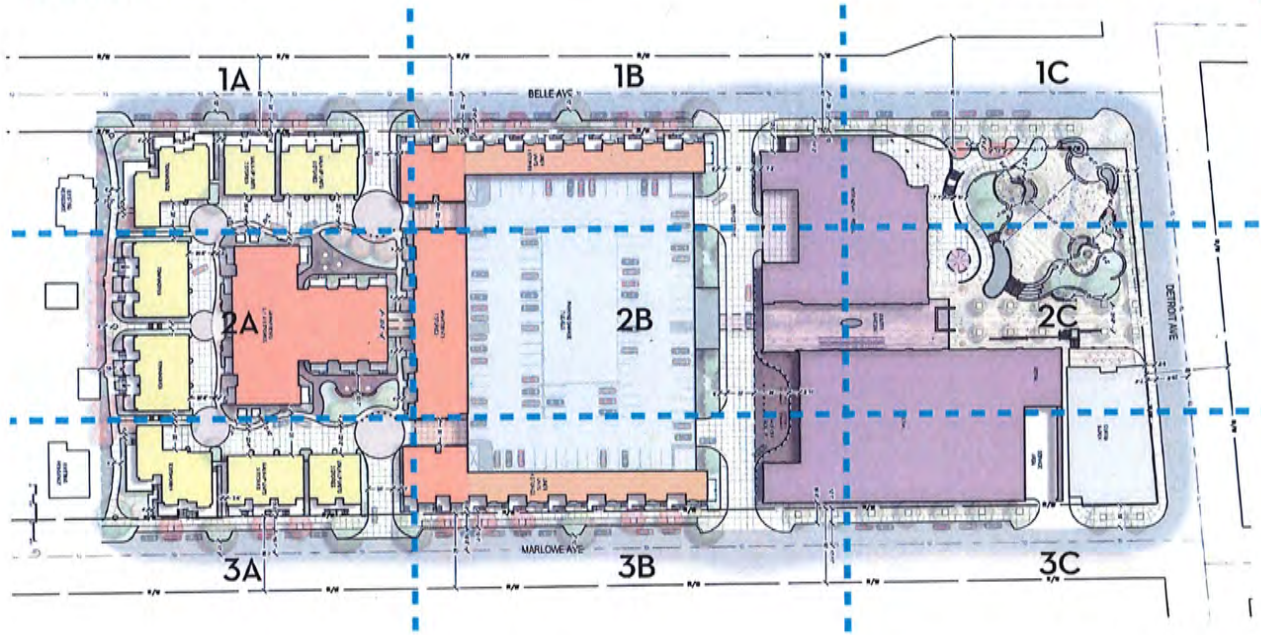




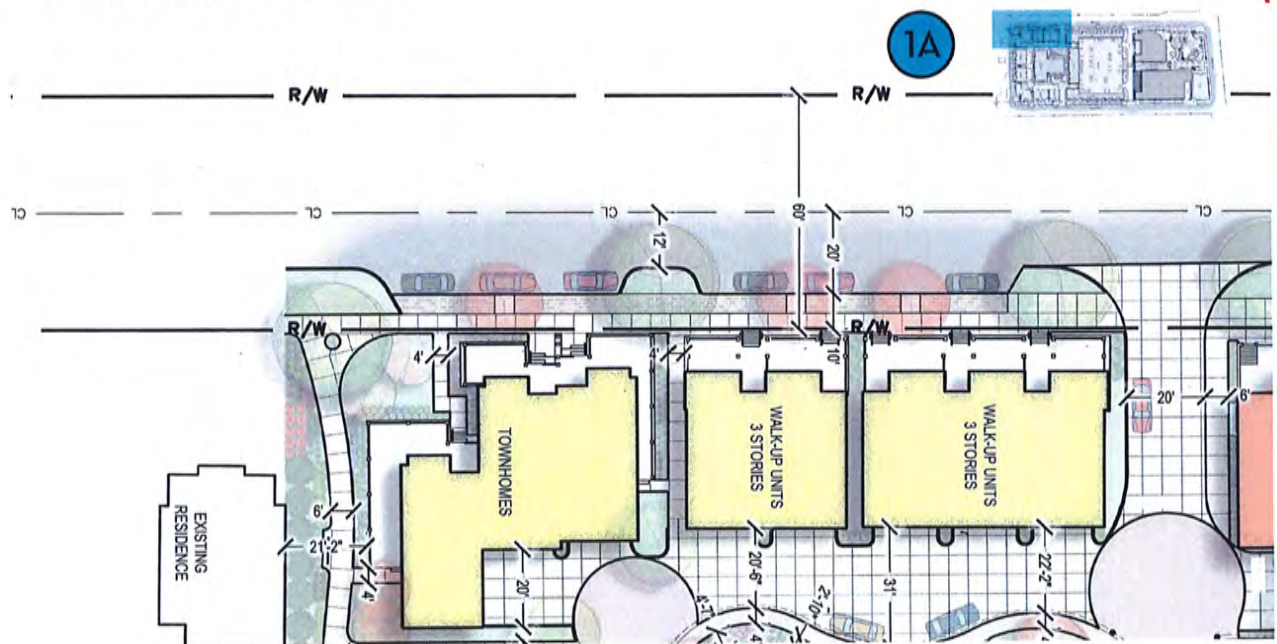
- 1 plan with dimensions
- 2 enlarged plans
- 3 plan with typical street sections
- 4 plan with setbacks

STREETSCAPE PLANS

streetscape plan with dimensions

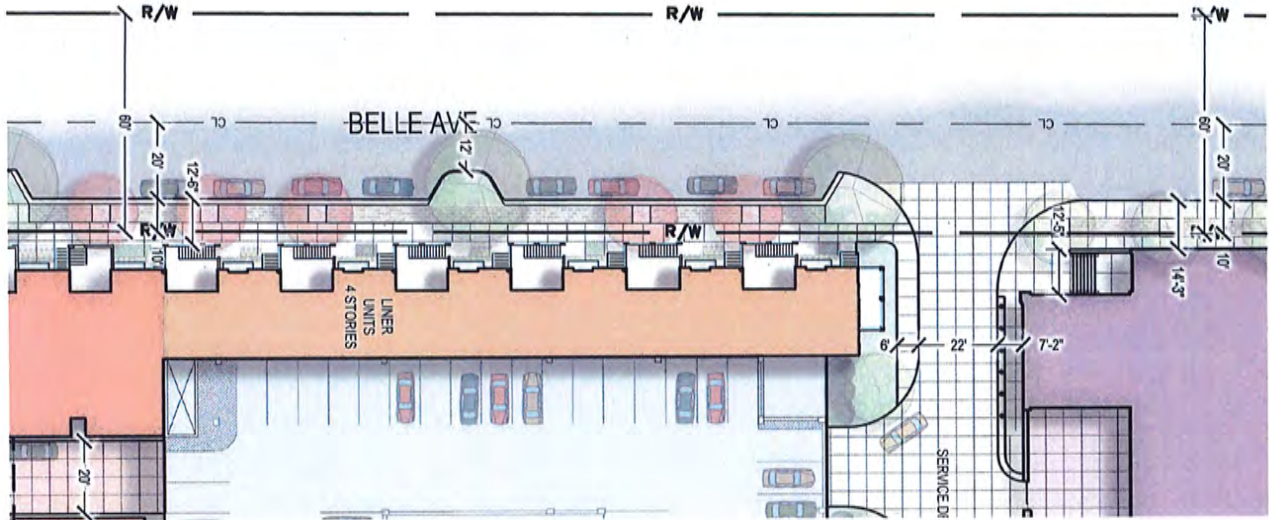


streetscape enlarged plan with dimensions (1A)



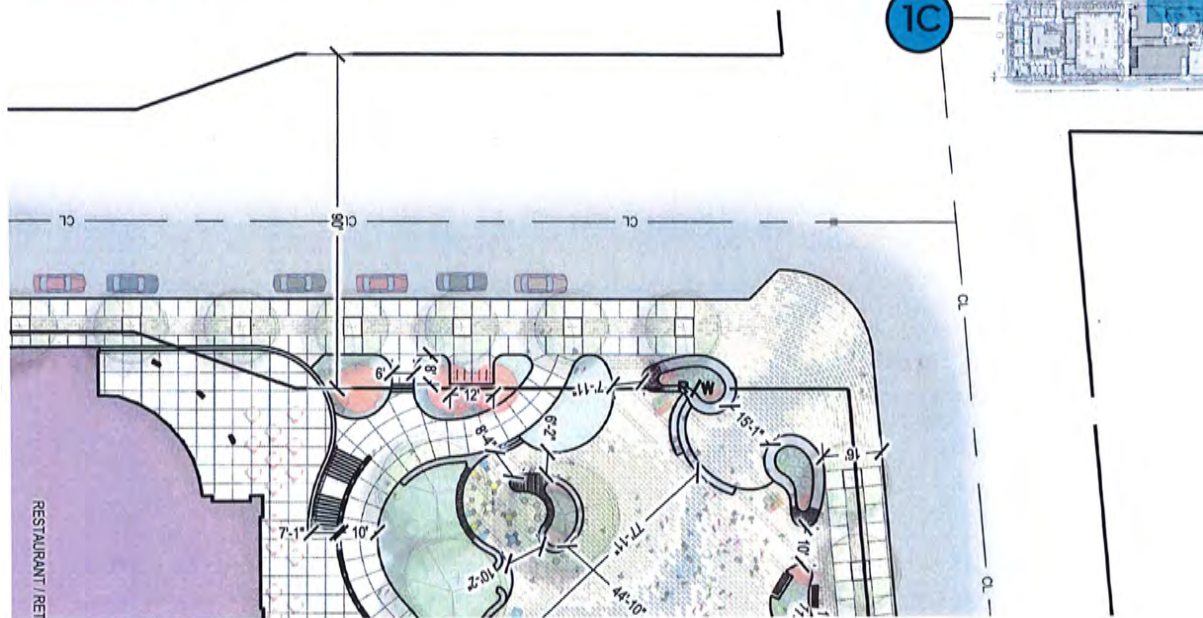
streetscape enlarged plan with dimensions (1B)

1B

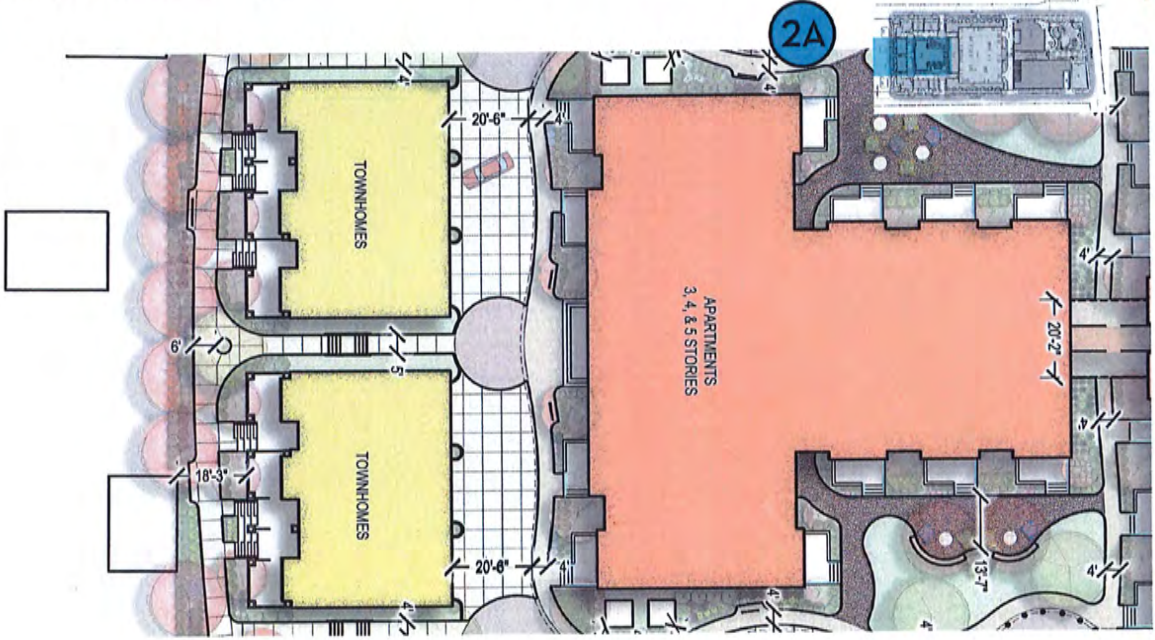


streetscape enlarged plan with dimensions (1C)

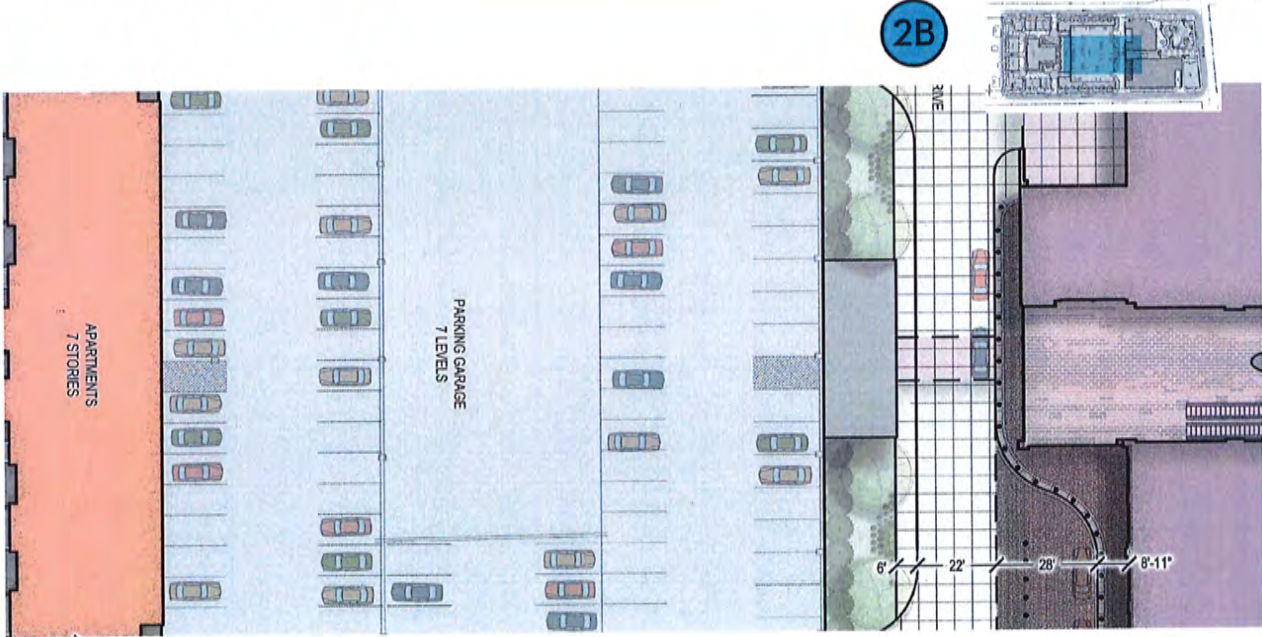
1C



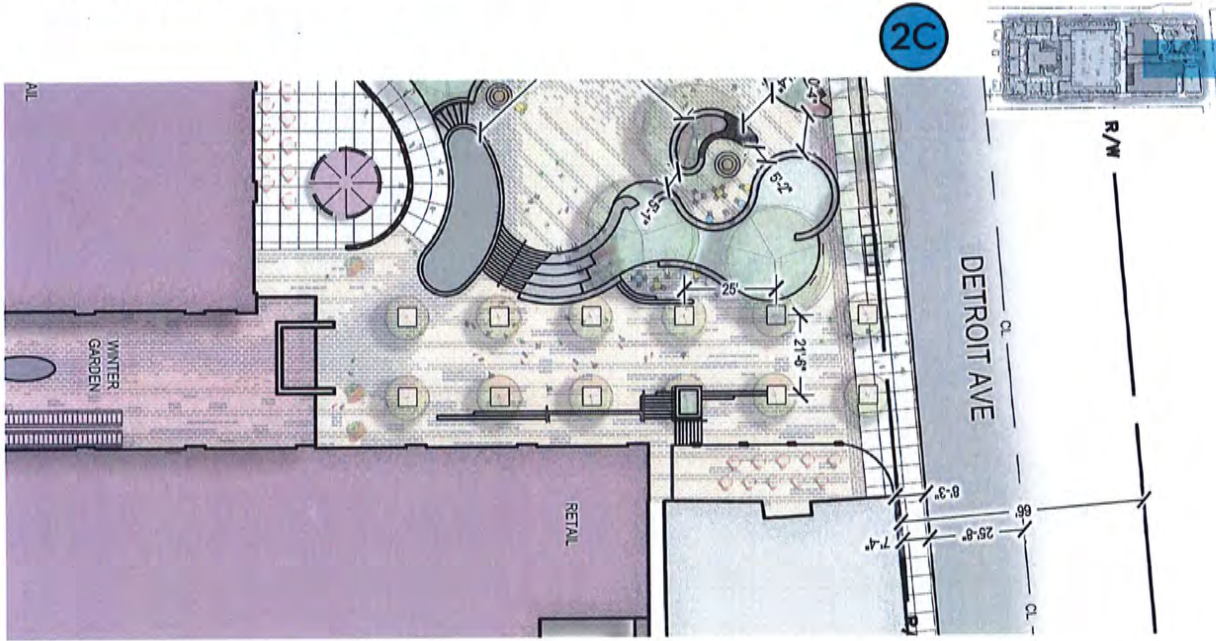
streetscape enlarged plan with dimensions (2A)



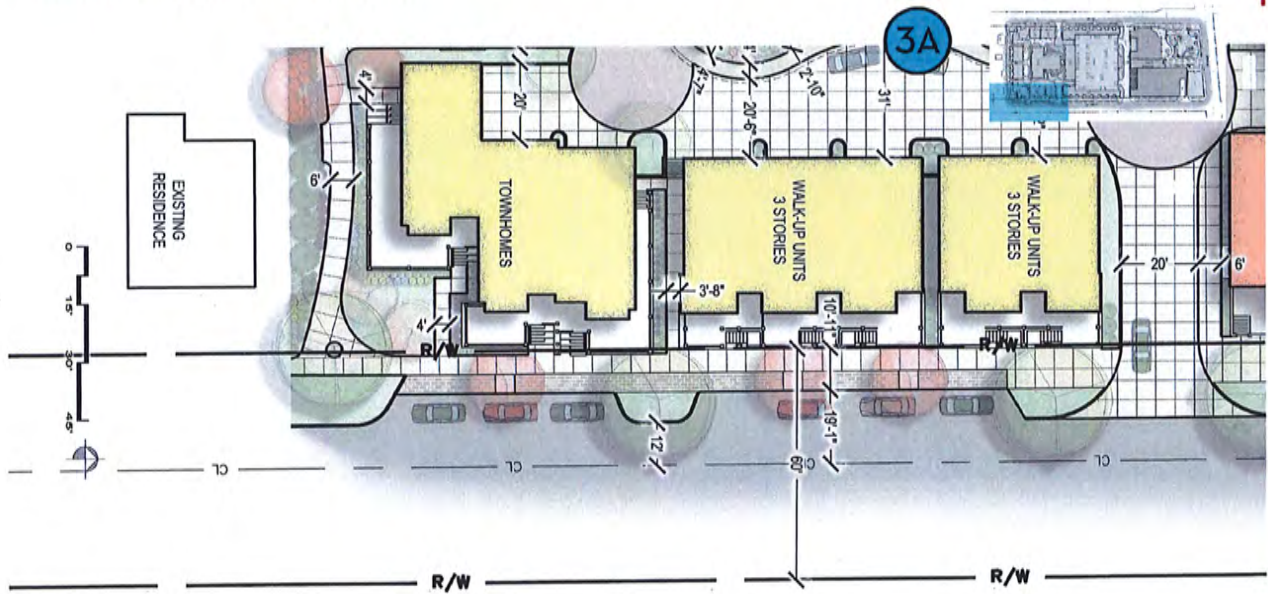
streetscape enlarged plan with dimensions (2B)



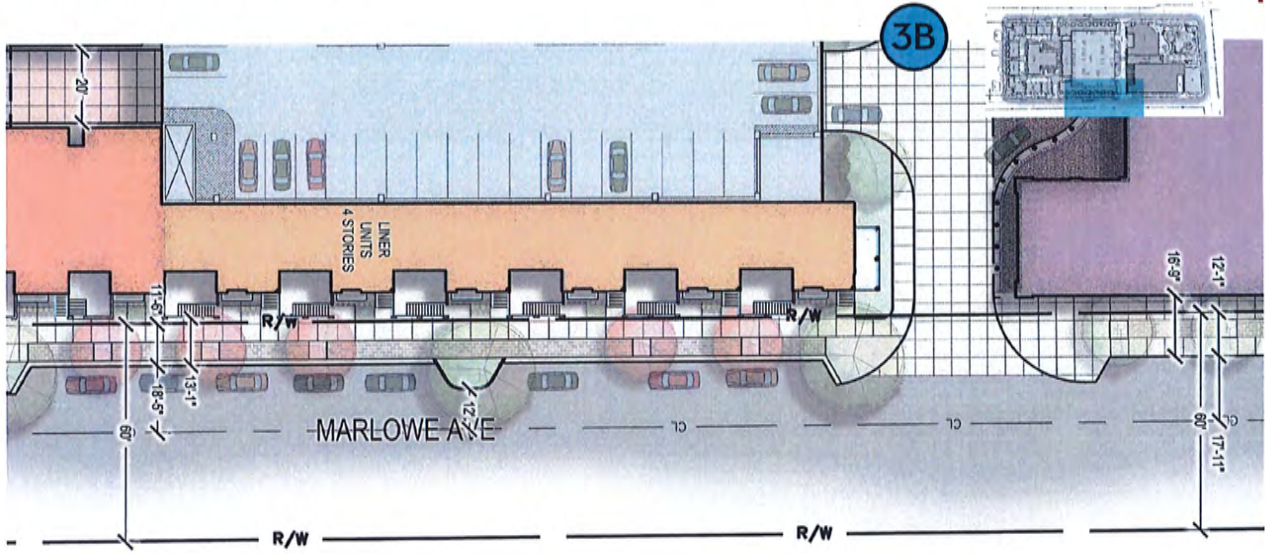
streetscape enlarged plan with dimensions (2C)



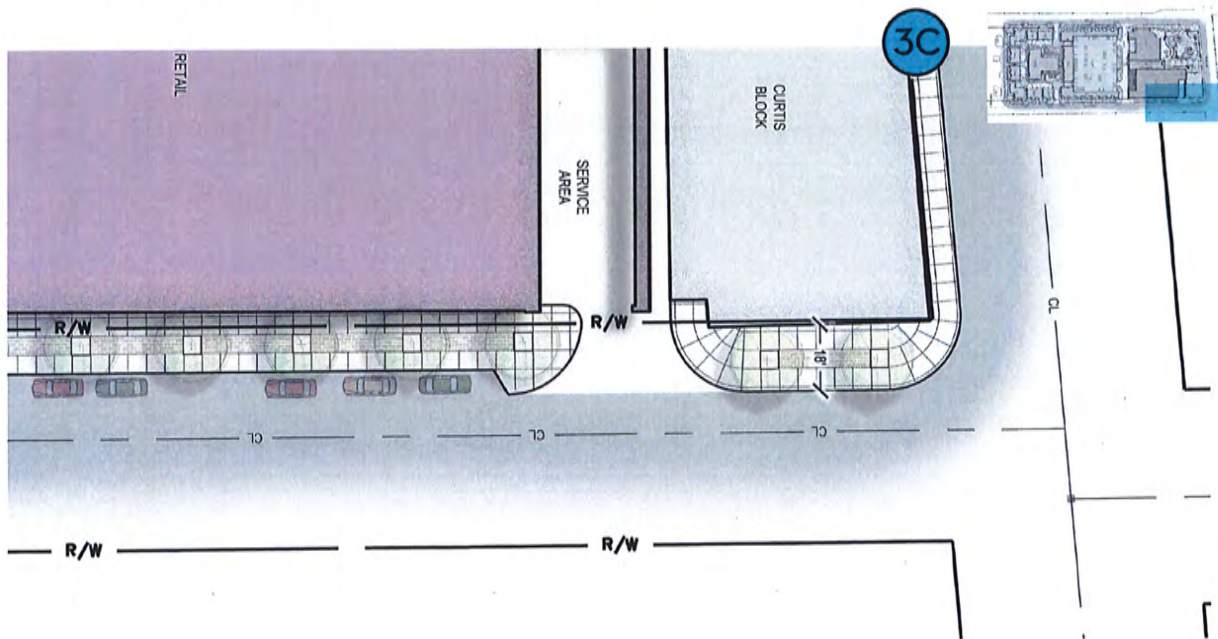
streetscape enlarged plan with dimensions (3A)



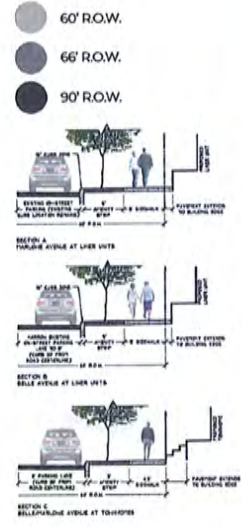
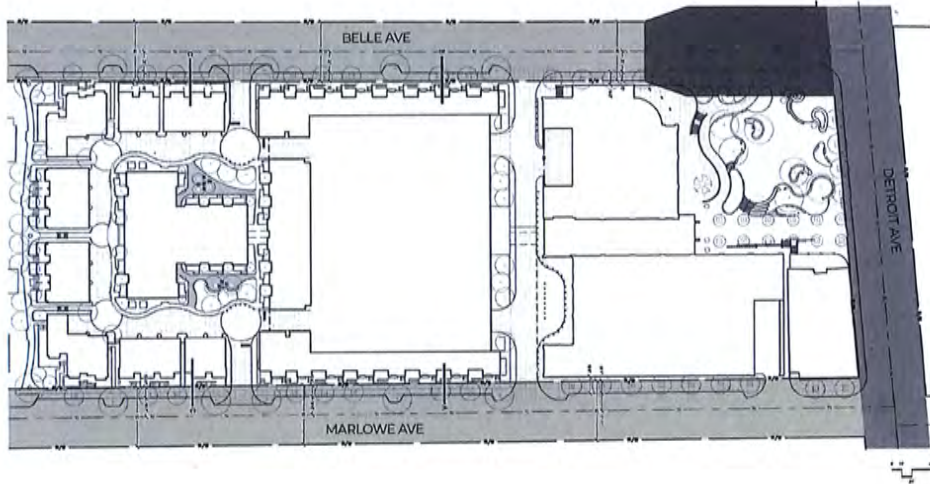
streetscape enlarged plan with dimensions (3B)



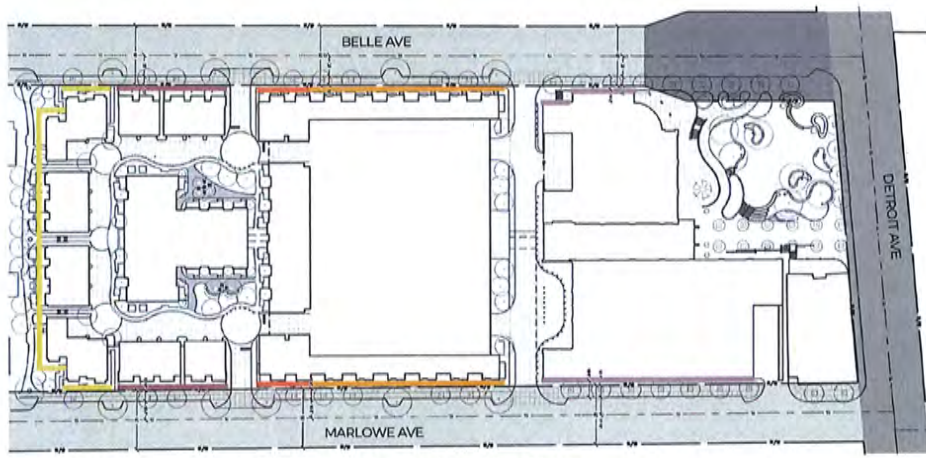
streetscape enlarged plan with dimensions (3C)



streetscape plan with typical street sections



streetscape plan with setbacks

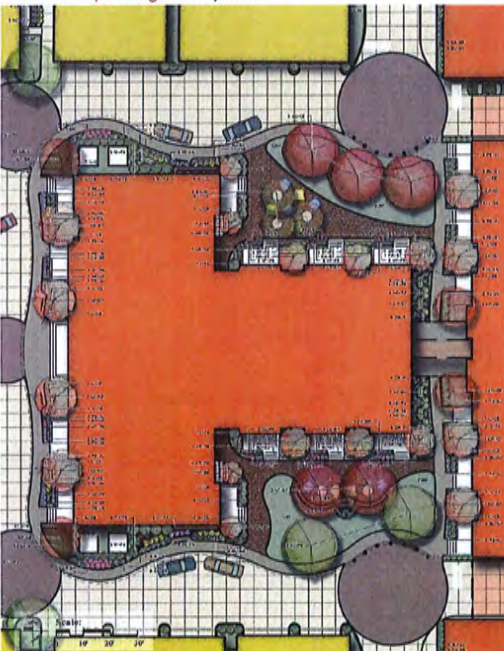


BUILDING SETBACK the unoccupied area between the public or private right-of-way and the building line.

- 1 residential plantings
 - a courtyards
 - b liner units
 - c paseo + southern townhomes
 - d walk-up units
- 2 commercial plantings
 - a Belle Avenue
 - b Marlowe Avenue

LANDSCAPING

residential plantings courtyards



KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOTS	REMARKS
DEBORAH'S TREES					
DC-CE	<i>Acacia dealbata</i> 'Goldensun'	Golden Wattle	3' Cal.	8 x 8	As Shown
DC-PO	<i>Banksia papuana</i> 'Whisper'	Whispering Birch	3' Cal.	8 x 8	As Shown
DC-SB	<i>Hyssa kytatica</i> 'Violet'	White Bark Gum	3' Cal.	8 x 8	As Shown
WILSON'S TREES					
WT-TE	<i>Yucca arborescens</i> 'Festiva Minima'	Manzanita	4'	8 x 8	As Shown
ORNAMENTAL TREES					
OR-GR	<i>Amelanchier alnifolia</i> 'Kajani Blossom'	Almond Blossom	2' Cal.	8 x 8	As Shown
OR-DB	<i>Cornus alba</i>	Spice Dogwood	2' Cal.	8 x 8	As Shown
OR-GE	<i>Magnolia 'Sally'</i>	Sally Magnolia	2' Cal.	8 x 8	As Shown
OR-ST	<i>Magnolia deltoidea</i> 'Royal Star'	Royal Star Magnolia	2' Cal.	8 x 8	As Shown
SHRUBS					
SH-AR	<i>Artemisia tridentata</i> 'Sea Spray Mixed'	Sea Spray Mixed Chalkberry	#1 Cont.	Well-Rounded	24" O.C.
SH-DY	<i>Buxus 'Green Velvet'</i>	Green Velvet Boxwood	18" Hx.	Cont.	24" O.C.
SH-PA	<i>Hydrangea paniculata</i> 'Jane'	Little Lime Hydrangea	24" Hx.	8 x 8	24" O.C.
SH-OB	<i>Ilex 'Crown of Thorns'</i>	Crown of Thorns Holly	24" Hx.	8 x 8	24" O.C.
SH-OB	<i>Ilex 'Crown of Thorns'</i>	Crown of Thorns Holly	24" Hx.	8 x 8	24" O.C.
SH-OU	<i>Taxus canadensis</i> 'Nana'	Dwarf Japanese Yew	24" Hx.	8 x 8	24" O.C.
SH-VA	<i>Viburnum acerifolium</i> 'Nana'	Dwarf Fragrant Viburnum	24" Hx.	8 x 8	24" O.C.
GRASSES					
GR-CE	<i>Ceanothus laevigatus</i>	Heavenly Blue Hollyhock	#1 Cont.	Well-Rounded	24" O.C.
GR-AL	<i>Parthenocissus vitacea</i>	Fourleaf Grass	#2 Cont.	Well-Rounded	24" O.C.
PERENNIALS					
PR-DR	<i>Dryopteris filix-mas</i> 'Black Pearl'	Black Pearl Fern	#1 Cont.	Well-Rounded	24" O.C.
PR-DR	<i>Dryopteris filix-mas</i> 'Black Pearl'	Black Pearl Fern	#1 Cont.	Well-Rounded	24" O.C.
PERENNIALS					
PR-DR	<i>Dryopteris filix-mas</i> 'Black Pearl'	Black Pearl Fern	#1 Cont.	Well-Rounded	24" O.C.
PR-DR	<i>Dryopteris filix-mas</i> 'Black Pearl'	Black Pearl Fern	#1 Cont.	Well-Rounded	24" O.C.



residential plantings brownstone units



KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOTS	REMARKS
DECIDUOUS TREES					
AC-F	<i>Acer rubrum 'Frax J'</i>	Redspire Red Maple	3' Cal.	B & B	As Shown
TA-DR	<i>Taxodium distichum</i>	Bald Cypress	3' Cal.	B & B	As Shown
UL-PR	<i>Ulmus americana 'Prospector'</i>	Prospector Elm	3' Cal.	B & B	As Shown
EVERGREEN TREES					
TH-GL	<i>Thuja glauca 'Green Giant'</i>	Green Giant Western Arborvitae	6'	B & B	As Shown
TH-TE	<i>Thuja occidentalis 'Teeley Mission'</i>	Masson Arborvitae	6'	B & B	As Shown
ORNAMENTAL TREES					
AD-GR	<i>Amelanchier a. grandiflora 'Autumn Brilliance'</i>	Autumn Brilliance Serviceberry	2' Cal.	B & B	As Shown
CO-KO	<i>Cornus kousa</i>	Kousa Dogwood	2' Cal.	B & B	As Shown
CR-CR	<i>Crataegus trux-balls 'Bernie's Crusader'</i>	Crusader Hawthorn	2' Cal.	B & B	As Shown
SHRUBS					
AL-LE	<i>Artemisia leucostachya 'Low Slope Mound'</i>	Low Slope Mound Chalkberry	43' Cal.	Well-Rooted	24" O.C.
BU-OV	<i>Buxus 'Green Velvet'</i>	Green Velvet Boxwood	18" H.	Cont.	36" O.C.
HY-OJ	<i>Hydrangea quercifolia 'Munchkin'</i>	Munchkin Oak Leaf Hydrangea	24" H.	B & B	36" O.C.
HY-PA	<i>Hydrangea paniculata 'Jani'</i>	Little Lime Hydrangea	34" H.	B & B	36" O.C.
LI-CO	<i>Lilium 'China Girl'</i>	China Girl Lily	36" H.	B & B	36" O.C.
LI-CB	<i>Lilium 'China Girl'</i>	China Girl Lily	36" H.	B & B	36" O.C.
VI-AC	<i>Viburnum acerifolium</i>	Mapleleaf Viburnum	18" H.	B & B	36" O.C.
VI-CA	<i>Viburnum cassinii 'Compassion'</i>	Compassion Korean Spice Viburnum	18" H.	B & B	36" O.C.
VI-FA	<i>Viburnum farreri 'Taurus'</i>	Dwarf Fragrant Viburnum	24" H.	B & B	36" O.C.
GRASSES					
CK-TR	<i>Calamagrostis brachyachia</i>	Korean Feather Reed Grass	42' Cor.	Well-Rooted	24" O.C.
CA-IS	<i>Carex lasiocarpa 'Indian Summer'</i>	Prairie Fox Sedge	42' Cor.	Well-Rooted	24" O.C.
PE-AL	<i>Pennisetum setosum 'Indian Summer'</i>	Fountain Grass	42' Cor.	Well-Rooted	24" O.C.
SC-TB	<i>Schizanthus saccatus 'The Blue'</i>	The Blue Little Blue Star	42' Cor.	Well-Rooted	24" O.C.
PERENNIALS					
HY-PR	<i>Hypericum perforatum 'Siberian Mahoeved Star'</i>	Emerald St. John's Wort	42' Cor.	Well-Rooted	18" O.C.
PE-LI	<i>Penstemon alpinus 'Little Spike'</i>	Little Spike Russian Sage	42' Cor.	Well-Rooted	18" O.C.
RU-SU	<i>Rubus odoratus 'Black-Eyed Susan'</i>	Little Obedient Black-Eyed Susan	42' Cor.	Well-Rooted	18" O.C.



residential plantings paseo + southern townhomes

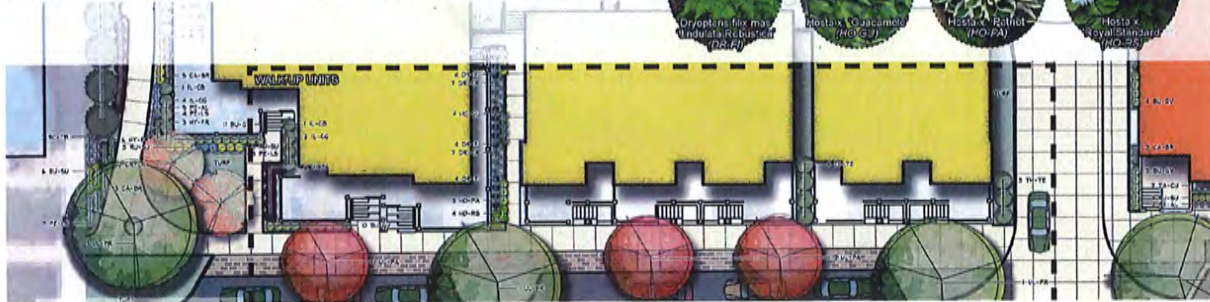


KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOTS	REMARKS
DECIDUOUS TREES					
AC-F	<i>Acer rubrum 'Frax J'</i>	Redspire Red Maple	3' Cal.	B & B	As Shown
TA-DR	<i>Taxodium distichum</i>	Bald Cypress	3' Cal.	B & B	As Shown
UL-PR	<i>Ulmus americana 'Prospector'</i>	Prospector Elm	3' Cal.	B & B	As Shown
EVERGREEN TREES					
TH-GL	<i>Thuja glauca 'Green Giant'</i>	Green Giant Western Arborvitae	6'	B & B	As Shown
TH-TE	<i>Thuja occidentalis 'Teeley Mission'</i>	Masson Arborvitae	6'	B & B	As Shown
ORNAMENTAL TREES					
AD-GR	<i>Amelanchier a. grandiflora 'Autumn Brilliance'</i>	Autumn Brilliance Serviceberry	2' Cal.	B & B	As Shown
CO-KO	<i>Cornus kousa</i>	Kousa Dogwood	2' Cal.	B & B	As Shown
CR-CR	<i>Crataegus trux-balls 'Bernie's Crusader'</i>	Crusader Hawthorn	2' Cal.	B & B	As Shown
SHRUBS					
AL-LE	<i>Artemisia leucostachya 'Low Slope Mound'</i>	Low Slope Mound Chalkberry	43' Cal.	Well-Rooted	24" O.C.
BU-OV	<i>Buxus 'Green Velvet'</i>	Green Velvet Boxwood	18" H.	Cont.	36" O.C.
HY-OJ	<i>Hydrangea quercifolia 'Munchkin'</i>	Munchkin Oak Leaf Hydrangea	24" H.	B & B	36" O.C.
HY-PA	<i>Hydrangea paniculata 'Jani'</i>	Little Lime Hydrangea	34" H.	B & B	36" O.C.
LI-CO	<i>Lilium 'China Girl'</i>	China Girl Lily	36" H.	B & B	36" O.C.
LI-CB	<i>Lilium 'China Girl'</i>	China Girl Lily	36" H.	B & B	36" O.C.
VI-AC	<i>Viburnum acerifolium</i>	Mapleleaf Viburnum	18" H.	B & B	36" O.C.
VI-CA	<i>Viburnum cassinii 'Compassion'</i>	Compassion Korean Spice Viburnum	18" H.	B & B	36" O.C.
VI-FA	<i>Viburnum farreri 'Taurus'</i>	Dwarf Fragrant Viburnum	24" H.	B & B	36" O.C.
GRASSES					
CK-TR	<i>Calamagrostis brachyachia</i>	Korean Feather Reed Grass	42' Cor.	Well-Rooted	24" O.C.
CA-IS	<i>Carex lasiocarpa 'Indian Summer'</i>	Prairie Fox Sedge	42' Cor.	Well-Rooted	24" O.C.
PE-AL	<i>Pennisetum setosum 'Indian Summer'</i>	Fountain Grass	42' Cor.	Well-Rooted	24" O.C.
SC-TB	<i>Schizanthus saccatus 'The Blue'</i>	The Blue Little Blue Star	42' Cor.	Well-Rooted	24" O.C.
PERENNIALS					
HY-PR	<i>Hypericum perforatum 'Siberian Mahoeved Star'</i>	Emerald St. John's Wort	42' Cor.	Well-Rooted	18" O.C.
PE-LI	<i>Penstemon alpinus 'Little Spike'</i>	Little Spike Russian Sage	42' Cor.	Well-Rooted	18" O.C.
RU-SU	<i>Rubus odoratus 'Black-Eyed Susan'</i>	Little Obedient Black-Eyed Susan	42' Cor.	Well-Rooted	18" O.C.



residential plantings walk-up units

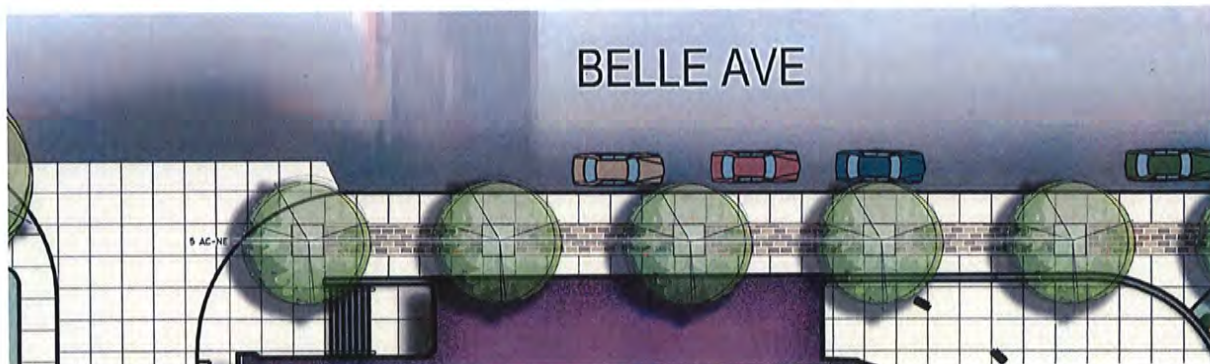
KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOTS	REMARKS
DECIDUOUS TREES					
UL-PR	Ulmus americana 'Prospector'	Prospector Elm	3" Cal.	B & B	As Shown
UL-PA	Ulmus parvifolia	Lacebark Elm	3" Cal.	B & B	As Shown
EVERGREEN TREES					
TH-TE	Thuja occidentalis 'Tehchy Mission'	Mission Arborvitae	6'	B & B	As Shown
SHRUBS					
BU-GV	Buxus 'Green Velvet'	Green Velvet Boxwood	18" Ht.	Cont.	30" O.C.
IL-CG	Ilex x 'China Girl'	China Girl Holly	36" Ht.	B & B	30" O.C.
IL-CB	Ilex x 'China Boy'	China Boy Holly	36" Ht.	B & B	30" O.C.
VI-FA	Viburnum farrei 'Nanum'	Dwarf Fragrant Viburnum	24" Ht.	B & B	30" O.C.
FERNS					
DR-ER	Dryopteris erythrosora 'Brilliance'	Brilliance Autumn Fern	#1 Cont.	Well Rooted	24" O.C.
DR-FI	Dryopteris filix mas 'Undulata Robusta'	Robust Undulata Male Fern	#1 Cont.	Well Rooted	24" O.C.
PERENNIALS					
HO-GU	Hosta x 'Guacamole'	Guacamole Hosta	#2 Cont.	Well Rooted	24" O.C.
HO-PA	Hosta x 'Patriot'	Patriot Hosta	#2 Cont.	Well-Rooted	24" O.C.
HO-RS	Hosta x 'Royal Standard'	Royal Standard Plantain Lily	#2 Cont.	Well-Rooted	24" O.C.



commercial plantings Belle Avenue



KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOTS
DECIDUOUS TREES				
AC-NE	Acer rubrum 'New World'	New World Red Maple	3" Cal.	B & B



commercial plantings Marlowe Avenue

benke
LANDSCAPE ARCHITECTURE

CARNEGIE

RDL
ARCHITECTS



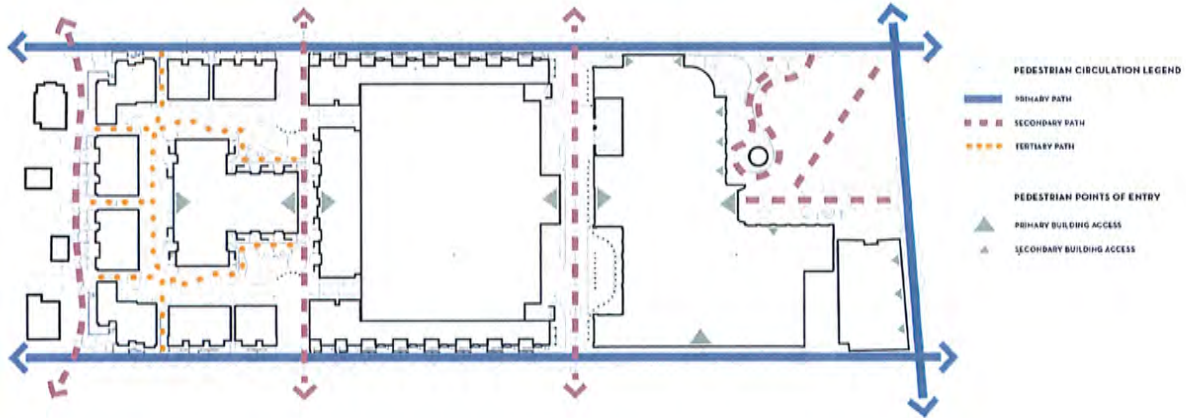
KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOTS	REMARKS
DECIDUOUS TREES					
AC-BR	Acer rubrum 'Brandywine'	Brandywine Red Maple	3" Cal.	B & B	As Shown
UL-PR	Ulmus americana 'Prospector'	Prospector Elm	3" Cal.	B & B	As Shown



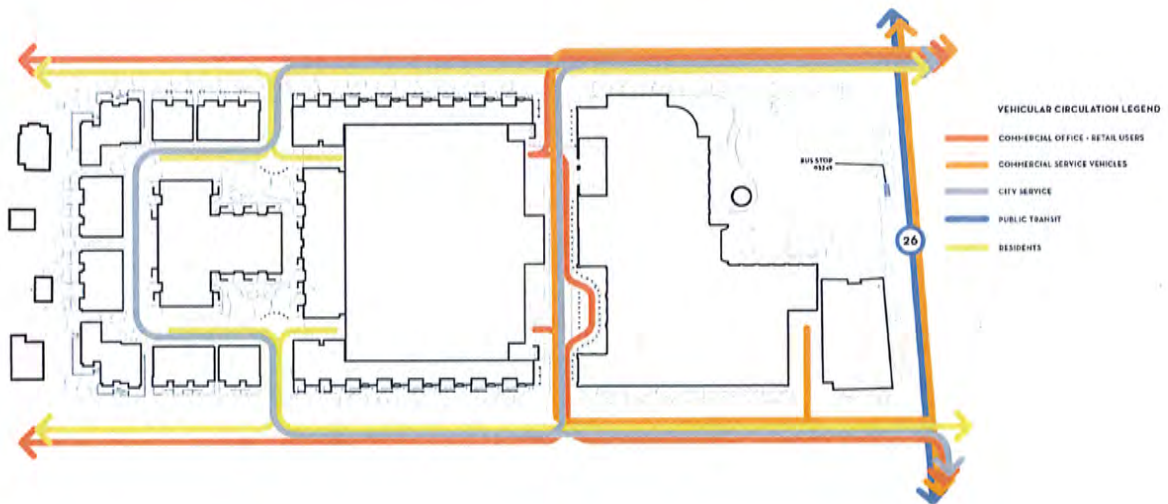
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- 3 traffic study

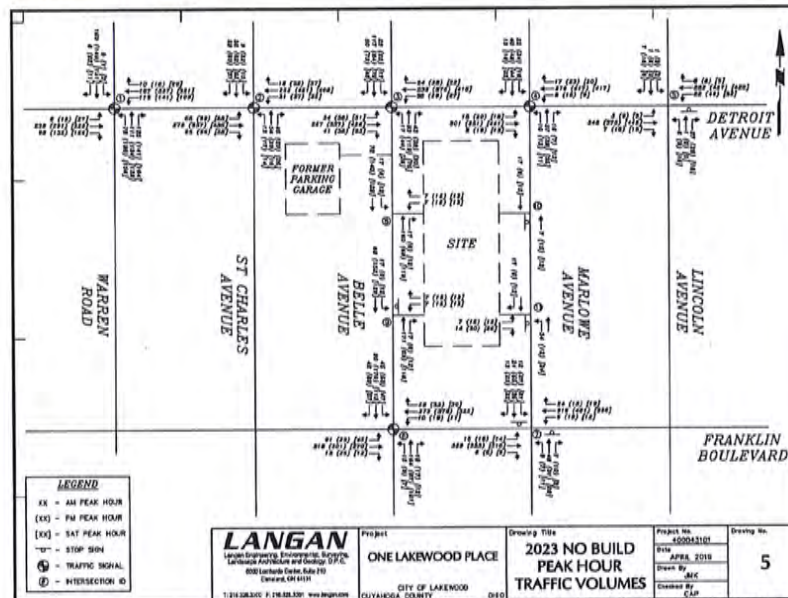
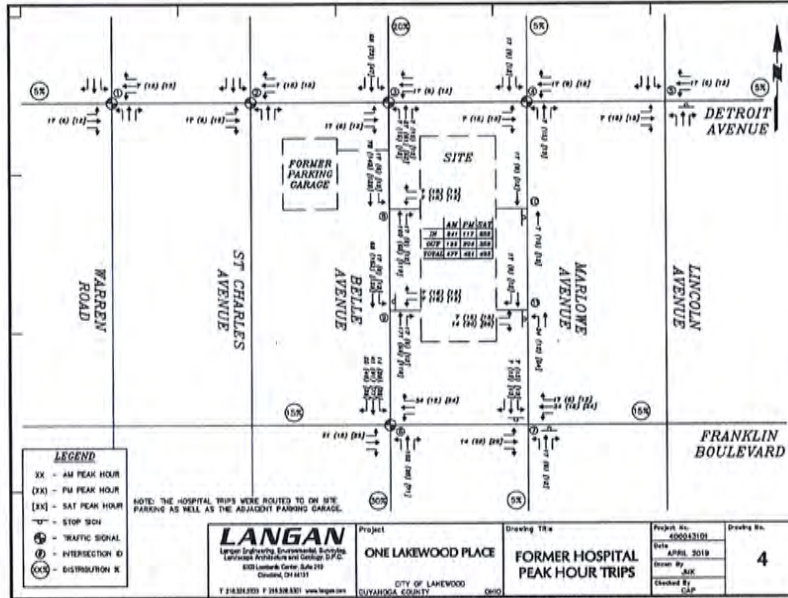
CIRCULATION

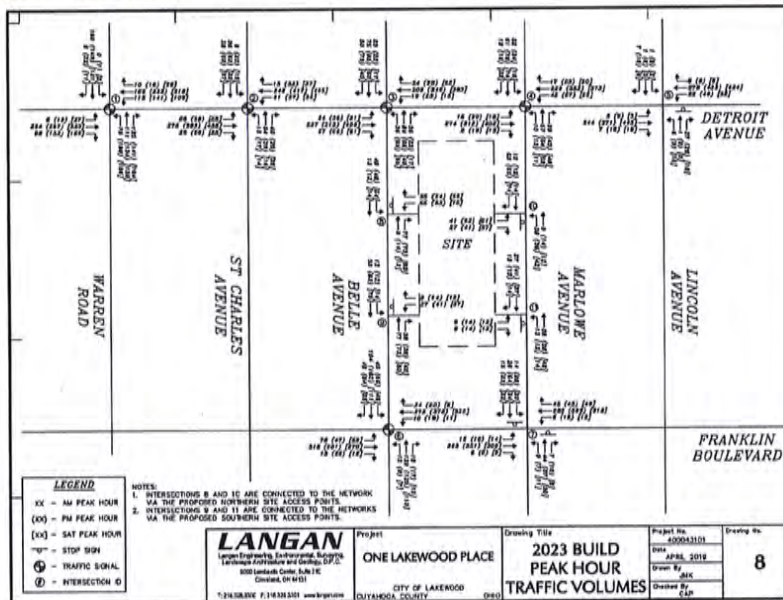
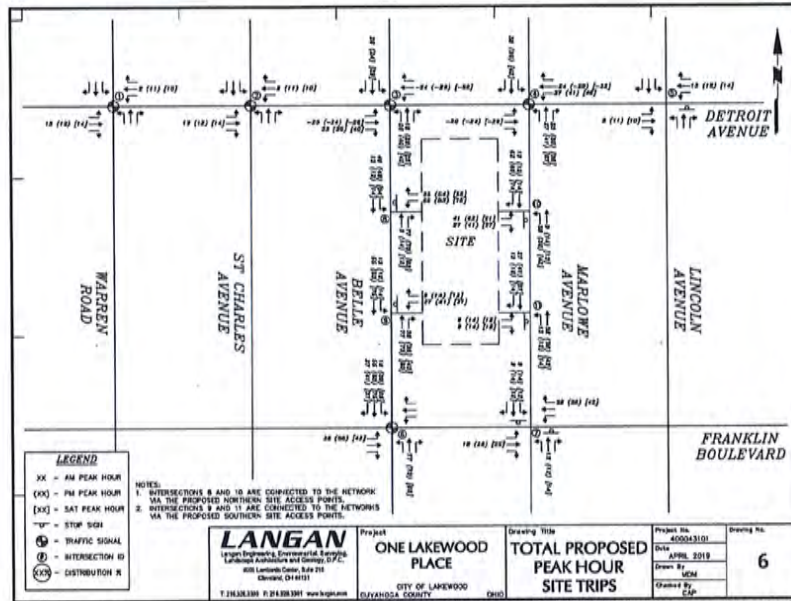
circulation pedestrian

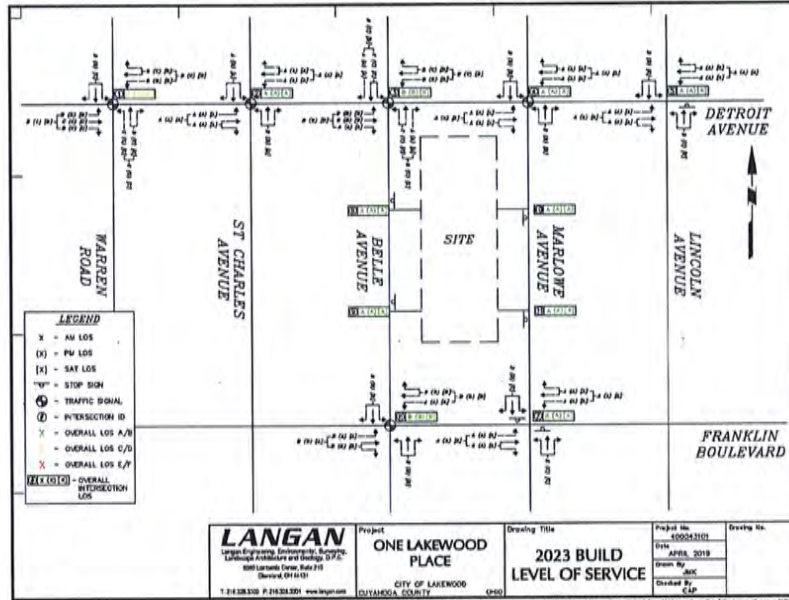


circulation vehicular





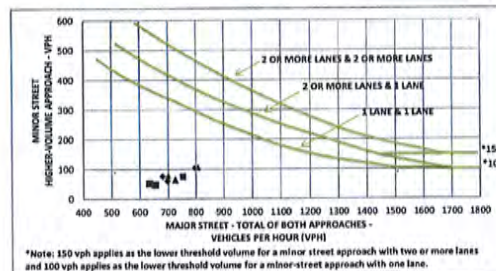




LANGAN
Project: One Lakewood Place
Date: 4/16/2019
6000 Lombardo Center, Suite 210 Cleveland OH, 44131
T: 216.328.3300 F: 216.328.3301
Calculated by: Langan

INTERSECTION: (7) Franklin Boulevard & Marlowe Avenue
MAJOR STREET: Franklin Boulevard NO. OF LANES: 1
MINOR STREET: Marlowe Avenue NO. OF LANES: 1
DATE: 4/16/2019
ANALYST: MAK

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Symbol	Scenario	Time Period	Major St. (vph)	Minor St. (vph)	Warrant Satisfied?
■	2019 Existing AM	7:30 - 8:30 AM	655	47	NO
■	2019 Existing PM	5:00 - 6:00 PM	754	75	NO
■	2019 Existing SAT	12:15 - 1:15 PM	634	52	NO
▲	2023 No-Build AM	7:30 - 8:30 AM	725	64	NO
▲	2023 No-Build PM	5:00 - 6:00 PM	808	106	NO
▲	2023 No-Build SAT	12:15 - 1:15 PM	701	78	NO
◆	2023 Build AM	7:30 - 8:30 AM	698	60	NO
◆	2023 Build PM	5:00 - 6:00 PM	786	104	NO
◆	2023 Build SAT	12:15 - 1:15 PM	681	76	NO

LANGAN

Project: One Lakewood Place
Date: 4/16/2019

8008 Lorbarco Center, Suite 210 Cleveland OH, 44131
T: 216.328.3300 F: 216.328.3391
Calculated by: Langan

INTERSECTION: (7) Franklin Boulevard & Marlowe Avenue
MAJOR STREET: Franklin Boulevard
MINOR STREET: Marlowe Avenue
DATE: 4/16/2019
ANALYST: MAK

Time	2019 Existing - 4-Way Stop Warrant						Warrant Satisfied?
	Franklin Boulevard			Marlowe Avenue			
	Eastbound	Westbound	Total	Northbound	Southbound	Total	
7:00 AM	358	253	611	70	59	129	NO
8:00 AM	214	234	448	37	39	76	NO
4:00 PM	272	364	636	55	70	125	NO
5:00 PM	342	412	754	51	79	130	NO
Requirement			300+			200+	

Notes:

- The 4-way stop warrant is considered satisfied when the following conditions are met:
 - The total vehicular volume entering the intersection from the major street approaches averages at least 300 vehicles per hour for 8 hours of an average day.
 - The total combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches averages at least 200 vehicles per hour for the same 8 hours.
- The 70% reduced warrant volume conditions based on the 85th-percentile speed exceeding 40 mph along the major street will likely not be applicable due to the upstream and downstream traffic signals along Franklin Boulevard.

LANGAN

Project: One Lakewood Place
Date: 4/16/2019

8008 Lorbarco Center, Suite 210 Cleveland OH, 44131
T: 216.328.3300 F: 216.328.3391
Calculated by: Langan

INTERSECTION: (7) Franklin Boulevard & Marlowe Avenue
MAJOR STREET: Franklin Boulevard
MINOR STREET: Marlowe Avenue
DATE: 4/16/2019
ANALYST: MAK

Time	2023 No Build - 4-Way Stop Warrant						Warrant Satisfied?
	Franklin Boulevard			Marlowe Avenue			
	Eastbound	Westbound	Total	Northbound	Southbound	Total	
7:00 AM	374	304	678	87	72	159	NO
8:00 AM	226	282	508	51	50	101	NO
4:00 PM	302	403	705	61	98	159	NO
5:00 PM	375	433	808	57	110	167	NO
Requirement			300+			200+	

Time	2023 Regional Growth					
	Franklin Boulevard			Marlowe Avenue		
	Eastbound	Westbound	Total	Northbound	Southbound	Total
7:00 AM	3	2	5	1	0	1
8:00 AM	2	2	4	0	0	0
4:00 PM	2	3	5	0	1	1
5:00 PM	3	3	6	0	1	1

Time	2023 No Build - Former Hospital Trips					
	Franklin Boulevard			Marlowe Avenue		
	Eastbound	Westbound	Total	Northbound	Southbound	Total
7:00 AM	13	49	62	16	13	29
8:00 AM	10	46	56	14	11	25
4:00 PM	28	16	44	6	27	33
5:00 PM	30	18	48	6	30	36

Notes:

- The 4-way stop warrant is considered satisfied when the following conditions are met:
 - The total vehicular volume entering the intersection from the major street approaches averages at least 300 vehicles per hour for 8 hours of an average day.
 - The total combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches averages at least 200 vehicles per hour for the same 8 hours.
- The 70% reduced warrant volume conditions based on the 85th-percentile speed exceeding 40 mph along the major street will likely not be applicable due to the upstream and downstream traffic signals along Franklin Boulevard.

INTERSECTION: (7) Franklin Boulevard & Marlowe Avenue
MAJOR STREET: Franklin Boulevard
MINOR STREET: Marlowe Avenue
DATE: 4/16/2019
ANALYST: NAK

2023 Build - 4-Way Stop Warrant							Warrant Satisfied?
Time	Franklin Boulevard			Marlowe Avenue			
	Eastbound	Westbound	Total	Northbound	Southbound	Total	
7:00 AM	377	292	669	83	76	159	NO
8:00 AM	229	270	499	48	53	101	NO
4:00 PM	300	419	719	66	96	162	NO
5:00 PM	373	451	824	63	108	171	NO
Requirement			300+			200+	

2023 Regional Growth						
Time	Franklin Boulevard			Marlowe Avenue		
	Eastbound	Westbound	Total	Northbound	Southbound	Total
7:00 AM	3	2	5	1	0	1
8:00 AM	2	2	4	0	0	0
4:00 PM	2	3	5	0	1	1
5:00 PM	3	3	6	0	1	1

2023 Build - Proposed Site Trips						
Time	Franklin Boulevard			Marlowe Avenue		
	Eastbound	Westbound	Total	Northbound	Southbound	Total
7:00 AM	16	37	53	12	17	29
8:00 AM	13	34	47	11	14	25
4:00 PM	26	32	58	11	25	36
5:00 PM	28	36	64	12	28	40

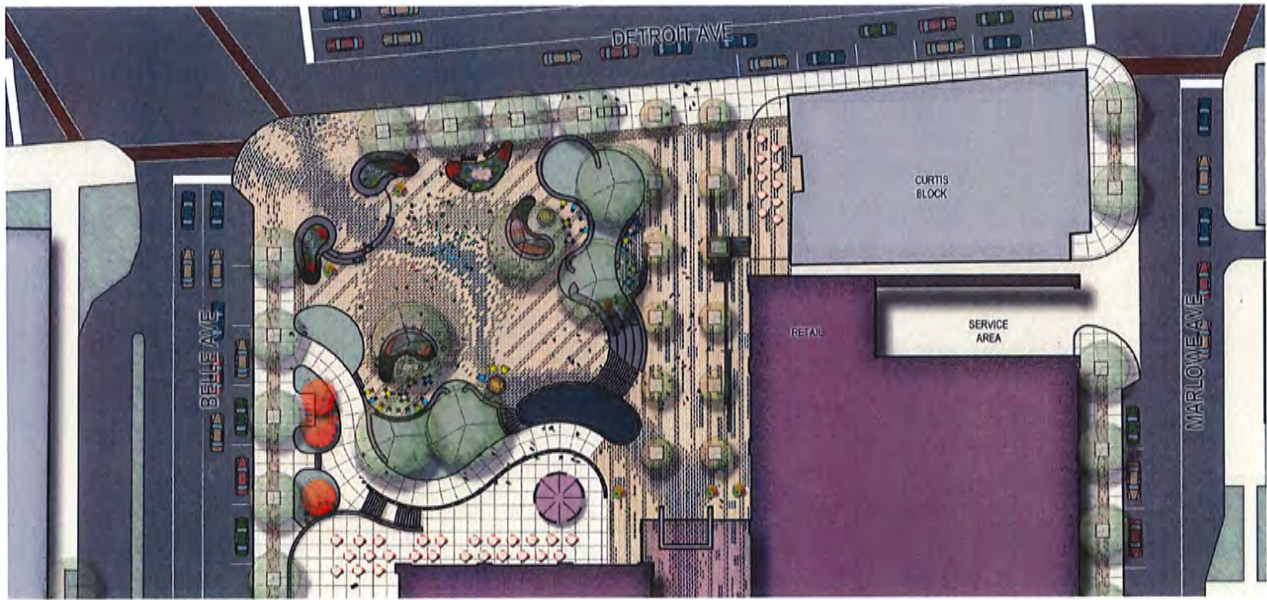
Notes:

The 4-way stop warrant is considered satisfied when the following conditions are met:
 - The total vehicular volume entering the intersection from the major street approaches averages at least 300 vehicles per hour for 8 hours of an average day.
 - The total combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches averages at least 200 vehicles per hour for the same 8 hours.
 The 70% reduced warrant volume conditions based on the 85th-percentile speed exceeding 40 mph along the major street will likely not be applicable due to the upstream and downstream traffic signals along Franklin Boulevard.

- 1 updated plaza plan
- 2 concept framework
- 3 rendered perspectives

PLAZA

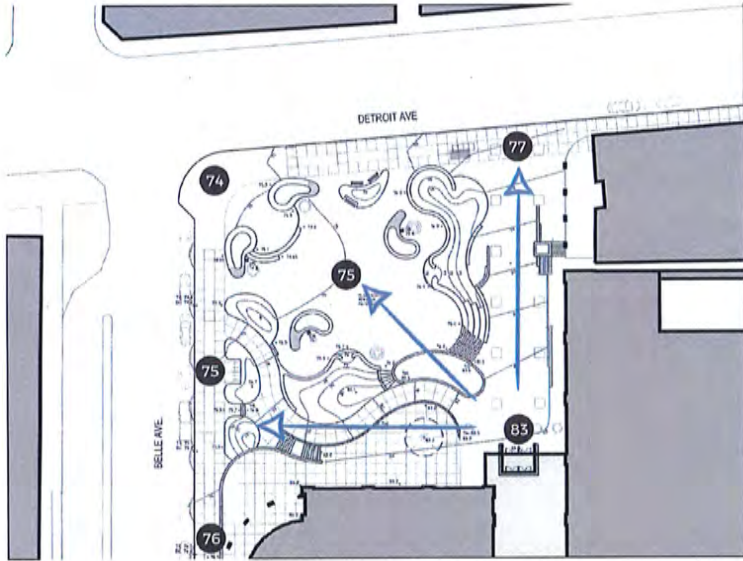
plaza plan



plaza concept framework



- SITE CONDITIONS & DESIGN INTERVENTIONS**
- TOPOGRAPHY / DRAINAGE
 - 9" GRADE CHANGE
 - PRIVATELY OWNED PUBLIC SPACE
 ○ 1/2 ACRE
 - CIRCULATION
 ● EXISTING
 ● ADA
 ● DESIRE LINES
 - HARDSCAPE
 ● PERVIOUS
 ● NON PERVIOUS
 - LANDSCAPE
 ● PLANTINGS
 ● TREES
 - SEATING
 ● FIXED
 ● MOVEABLE
 ● DINING AREAS



SITE CONDITIONS & DESIGN INTERVENTIONS

● TOPOGRAPHY / DRAINAGE
- 9' GRADE CHANGE



● PRIVATELY OWNED PUBLIC SPACE
○ 1/2 ACRE



SITE CONDITIONS & DESIGN INTERVENTIONS

- CIRCULATION
- EXISTING
- ADA
- DESIRE LINES



SITE CONDITIONS & DESIGN INTERVENTIONS

- HARDSCAPE
- PERVIOUS
- NON PERVIOUS



SITE CONDITIONS & DESIGN INTERVENTIONS



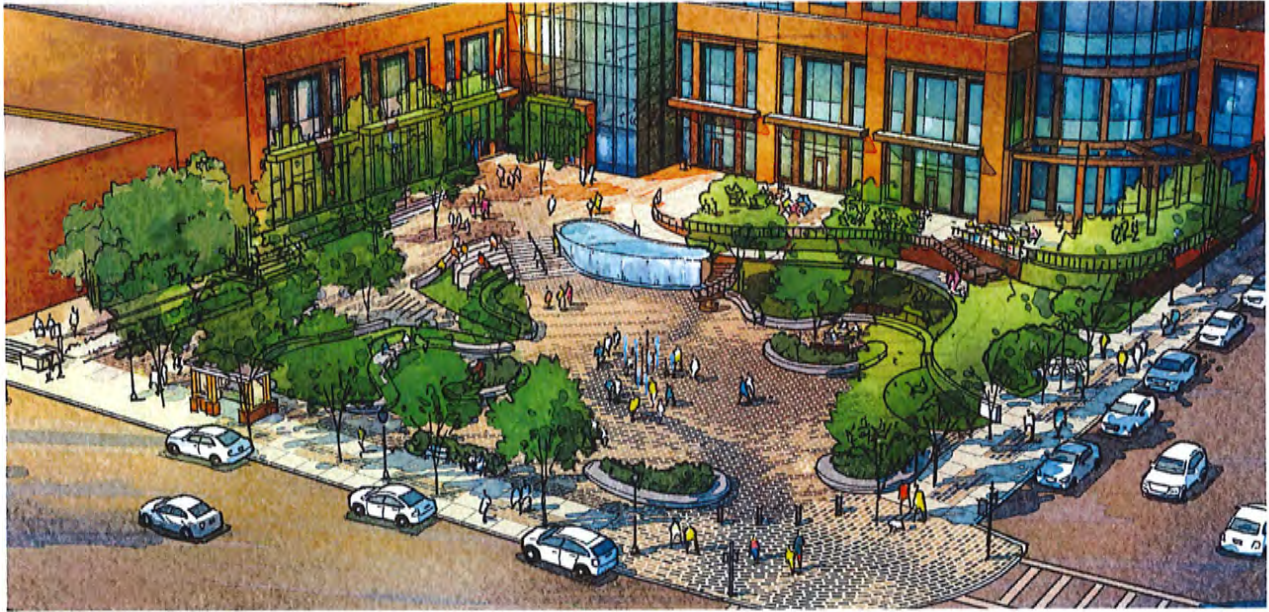
SITE CONDITIONS & DESIGN INTERVENTIONS

rendered perspective plaza

behnke
LANDSCAPE ARCHITECTS

CARNEGIE

RDL
ARCHITECTS



rendered perspective plaza

behnke
LANDSCAPE ARCHITECTS

CARNEGIE

RDL
ARCHITECTS



- 1 photometric plan
- 2 fixtures

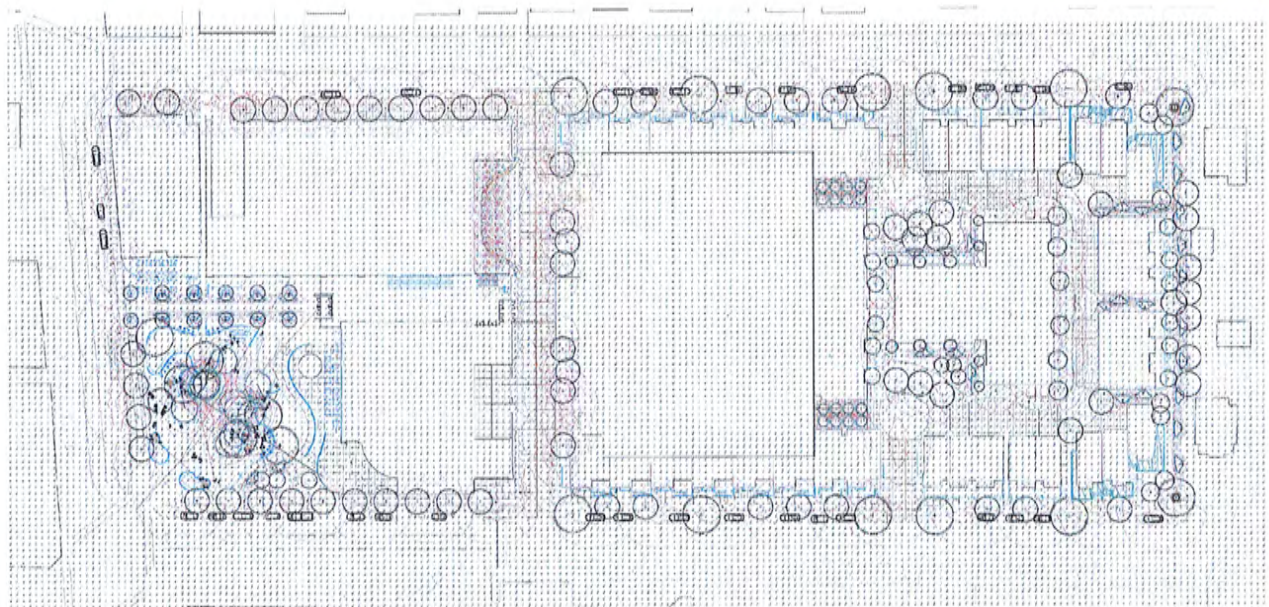
LIGHTING

photometric site plan

bernke
ARCHITECTS

CARNEGIE

RDL
ARCHITECTS



lighting fixtures



Granville II LED
Historic Style Glass Classic
Hanging Size Standard

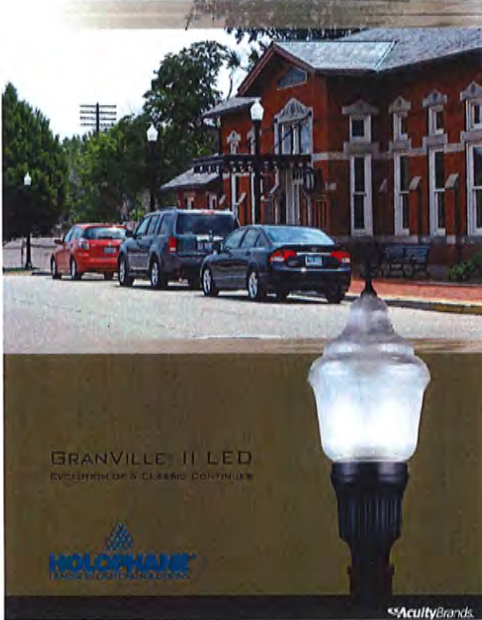
DECORATIVE OUTDOOR

Maximum weight - 47 lbs
Maximum effective projected area - 1.29 sq. ft.

Dimensions:
Overall Height: 17 1/2" (443 mm)
Overall Width: 12 1/2" (318 mm)
Overall Depth: 12 1/2" (318 mm)

Options:
• Glass Color: Clear, Bronze, Amber, Gold, Silver, Blue, Green, Red, Purple, Orange, Yellow, White, Black
• LED Chipset: 3000K (Warm White), 4000K (Neutral White), 5000K (Cool White)
• Mounting: Standard, Alternative

Notes: NOTES ARE LOCATED ON PAGE 3



lighting fixtures



lumenbeam
Cradle
C8000

Specification Sheet

Product Name: Cradle C8000

Type: Chandelier / Fast Mounting

Photometric Summary

Model	Ballast Power (W)	Ballast Power (W)	Ballast Power (W)
100	3,550	277,000	277,000
200	3,550	155,000	155,000
300	3,550	117,000	117,000
400	3,550	89,000	89,000
500	3,550	61,000	61,000

Description: The lumenbeam Cradle Color-Changing is a high performance, LED-based fixture for applying dynamic color to architectural interiors and outdoors. It has numerous options including RGB, RGBW or RGBA color mixing, scene memory options, wireless, protocols and controls.

Options:

- Color and Color Temperature: Address RGB, Address RGB + white, 2000K, Address RGB + white
- Optic Control Distribution: 2°-8°, 10°, 20°, 45°, 60°
- Optic Option: User-provided beam distribution, beam spread, beam control distribution
- Optic: Mount hole, 20-AWG (1.6x3.1) 19-strand fiber for bridge applications, connector meeting for bridge and corners
- Beam Changeling: 400 Hz
- Memory: 8-year limited memory
- Performance: 2,700 to 6,000 lm output, 80,000, 3,300 to 6,000 lm output, 80,000, 3,300 to 6,000 lm output, 80,000
- Ballast Economy: 1.18 (2.0x of output) PFC LM output, 80,000, 3,300 to 6,000 lm output, 80,000, 3,300 to 6,000 lm output, 80,000
- Color Changeling: 400 Hz
- Lumen Maintenance: L70 100,000 hrs @ 25 °C

lumenpulse



lighting fixtures

Configured Specification Sheet



lumenpulse
Reflected

Configurations

Color and Color Temperatures

Control

Rating

Certifications

Description

No other Reflected fixture lights up out of the blue and the eyes of passersby like the lumenpulse Reflected. There's no ugly exterior post poles, wires, or brackets. Single poles, public areas, and buildings are easy. Thanks to color-matched, the fixture is a simple and easy-to-use lumenpulse Reflected form to be an integral part of your outdoor urban landscape. That's the lumenpulse Reflected.

Features

Color and Color Temperature

Distributions

Options

Warranty

Performance

Output (watt/foot lumens)

Color Rendering

Lumen Maintenance

Dark Sky

Physical

Mounting Material

Lens

Ball Color Option

Hardware

Weight

ETA



lumenpulse
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lighting fixtures

Specification Sheet



lumenpulse
Column

Configurations

Color and Color Temperatures

Control

Rating

Certifications

Description

If you want to make a site accessible and proud of its appearance, the lumenpulse Column is your best choice. Capable of carrying a ball and an overhead, the Column carries a ball and overhead throughout a number of applications. With its ball, accessibility, ease, its multiple color options, and giving a true historical of color, the lumenpulse Column has your city covered.

Features

Height

Configurations

Color and Color Temperature

Distributions

Options

Ball color options

Warranty

Performance

Output (watt/foot lumens)

Color Rendering

Lumen Maintenance

Dark Sky



lumenpulse
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GEN LED **ACOLYTE**
Architectural Lighting Solutions

CLASSIC BY REMEDIABLE SERIES 2 CHANNEL FIXTURE COMPACT & BENDY SERIES

Classic BY Remediable Series 2 Channel Fixture is a slim, bendable channel fixture that is ideal for areas of low traffic. The fixture is designed with a high-quality, durable, and weather-resistant housing. The fixture is made of aluminum and is available in a variety of finishes. The fixture is made of aluminum and is available in a variety of finishes. The fixture is made of aluminum and is available in a variety of finishes.



Project: One at Wood Place
Type: Underbench
Date: 03/06/2019



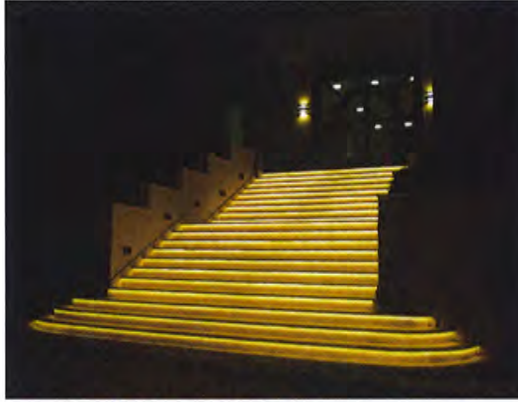
RoHS COMPLIANT

CATEGORY	LINE	UP	PRODUCT LINE & PARTS	WARRANTY	REMARKS
LED	1000	1000	1000	1000	1000

WARRANTY	COLOR	CONVERSION OPTIONS
1000	1000	1000

AVAILABLE COLORS AND COLOR TEMPERATURES

1000	1000	1000
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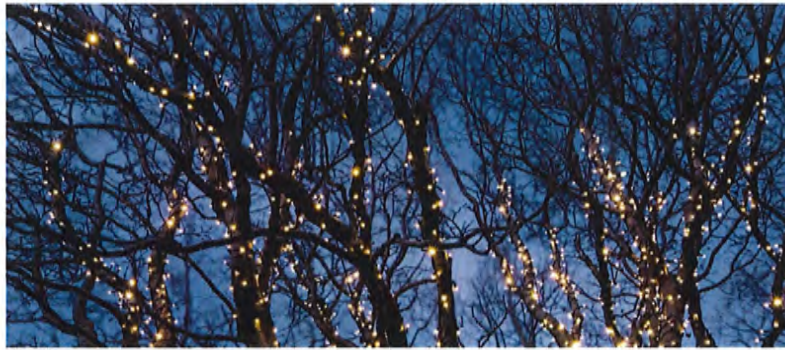


FL SERIES-02 WATT KINETIC TOKLEDS

Project: One at Wood Place
Type: Tree Lights
Date: 03/06/2019

ITEM	DESCRIPTION	QTY	UNIT	REMARKS
1	FL Series-02 Watt Kinetic Tokleds	1	EA	1000

TORSTAR LIGHTING INC.
1000



lighting fixtures

SCALA

WEB PN 752



GENERAL INFORMATION

- Mounting:** Low voltage, recessed, minimum height: recessed 6" or greater
- Finish:** Powder coated polyester highly resistant to UV and oxidation
- Diffuser:** 5/8" x 5/8" white acrylic tempered glass
- External Drivers:** To be selected and installed with any anti-flicker/ripple-free dimming solution to minimize flickering
- Switch:** 5-10 W
- Color Temp:** Minimum 2700K, up to 6500K (4000K-5000K)
- Output:** 15W-270W
- Biangles:** 40° or 60°
- Material:** Polycarbonate for wall mounting and chrome or bronze
- Rated Lifetime:** 50,000 hours @ L70, based on 3000-hour CIE

FINISH OPTIONS



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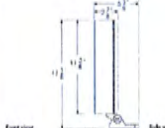
lighting fixtures

Specification Sheet

lumenquad

Model: LQ-3000-2700K

Type: Ceiling / Recessed



Photometric Summary

	Default	Intensity
	lm/ft²	lm/ft²
3000K	3000	3000
4000K	3000	3000
5000K	3000	3000
6000K	3000	3000
7000K	3000	3000
8000K	3000	3000
9000K	3000	3000
10000K	3000	3000

Description

The lumenquad fixture, 30W LED, Luminaires, has a cut 2.7'W in profile with the wide ceiling or the direct and down beam lighting with the indirect lighting. The luminaire's outer perimeter of LED source provides an optimal design and focus for the beam, recessed and direct. The luminaire's design is the essence of its quality and can be configured with numerous options including color temperature, dimming, or beam lighting. It is made of color temperatures and colors, as well as option mounting options, accessories, controls, and multiple standard finishes.

Features

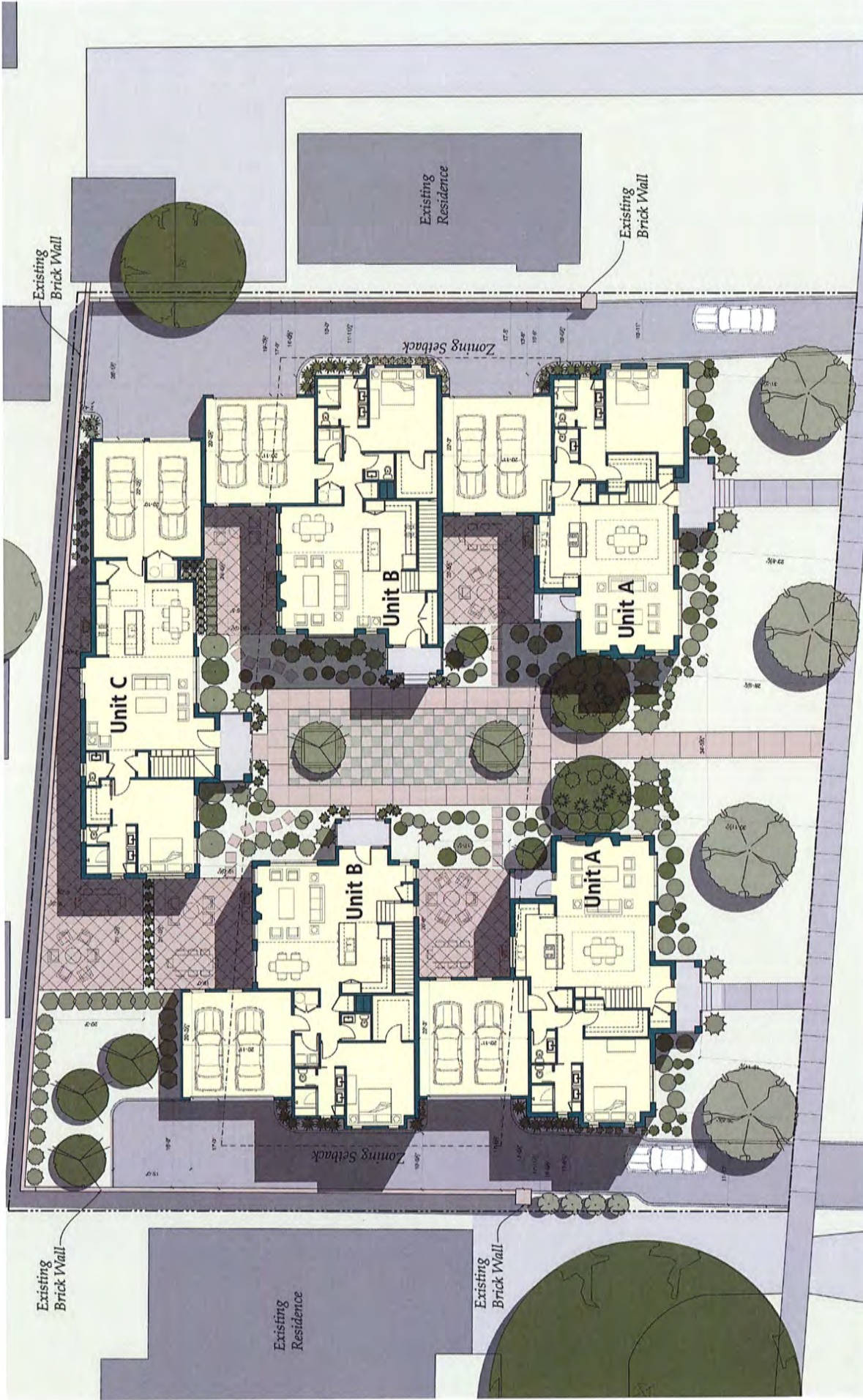
- Color and Color Temperature:** 3000K, 3500K, 4000K, 4500K, 5000K, Red, Green, Blue
- Optical beam distribution:** 40°/60°/90°/120°/180°/270°/360°/400°/540°/720°/900°/1080°/1260°/1440°/1620°/1800°/1980°/2160°/2340°/2520°/2700°/2880°/3060°/3240°/3420°/3600°/3780°/3960°/4140°/4320°/4500°/4680°/4860°/5040°/5220°/5400°/5580°/5760°/5940°/6120°/6300°/6480°/6660°/6840°/7020°/7200°/7380°/7560°/7740°/7920°/8100°/8280°/8460°/8640°/8820°/9000°/9180°/9360°/9540°/9720°/9900°/10080°/10260°/10440°/10620°/10800°/10980°/11160°/11340°/11520°/11700°/11880°/12060°/12240°/12420°/12600°/12780°/12960°/13140°/13320°/13500°/13680°/13860°/14040°/14220°/14400°/14580°/14760°/14940°/15120°/15300°/15480°/15660°/15840°/16020°/16200°/16380°/16560°/16740°/16920°/17100°/17280°/17460°/17640°/17820°/18000°/18180°/18360°/18540°/18720°/18900°/19080°/19260°/19440°/19620°/19800°/19980°/20160°/20340°/20520°/20700°/20880°/21060°/21240°/21420°/21600°/21780°/21960°/22140°/22320°/22500°/22680°/22860°/23040°/23220°/23400°/23580°/23760°/23940°/24120°/24300°/24480°/24660°/24840°/25020°/25200°/25380°/25560°/25740°/25920°/26100°/26280°/26460°/26640°/26820°/27000°/27180°/27360°/27540°/27720°/27900°/28080°/28260°/28440°/28620°/28800°/28980°/29160°/29340°/29520°/29700°/29880°/30060°/30240°/30420°/30600°/30780°/30960°/31140°/31320°/31500°/31680°/31860°/32040°/32220°/32400°/32580°/32760°/32940°/33120°/33300°/33480°/33660°/33840°/34020°/34200°/34380°/34560°/34740°/34920°/35100°/35280°/35460°/35640°/35820°/36000°



- 1 project overview
- 2 building heights
- 3 building setbacks
- 4 lot coverage
- 5 permitted uses
- 6 parking diagram
- 7 truck turning diagrams
- 8 streetscape plan
- 9 landscaping
- 10 circulation
- 11 plaza
- 12 lighting

PLANNING COMMISSION AGENDA RECAP

May 2, 2019



Lake Avenue Homes
Lakewood, Ohio

Site Aerial

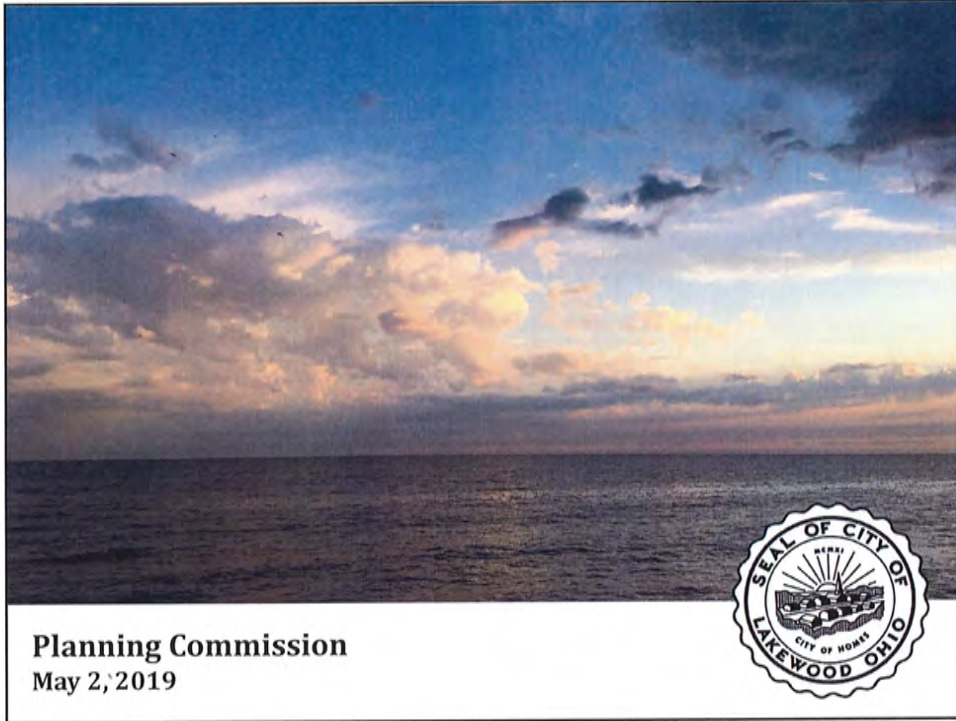


05.01.2019

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architecture + interiors + urban design



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Planning Commission
May 2, 2019

AGENDA

- 1. One Lakewood Place**
- 2. Lake Avenue Homes**
- 3. GTI Lot Consolidation**
- 4. Castlewood Antennas**



Docket No. 09-28-18
14519 Detroit Avenue

ONE LAKEWOOD PLACE



- 1. Introduction**
- 2. Review of the Final Planned Development Package**
- 3. Follow-up on the Traffic Impact Study**
- 4. City Comments**
- 5. Planning Commission questions & feedback**
- 6. Public comment & questions**
- 7. Discussion on comments & questions**
- 8. Vote**



Planned Development Approval Process

1. ~~Planning Commission reviews plan for preliminary approval- December 6th~~
2. ~~Architectural Board of Review begins review of site plan and elevations~~
3. **Planning Commission approves final development**
4. Architectural Board of Review approves site plan, elevations and materials
5. City Council approves Planned Development zoning

14519 Detroit Avenue
One Lakewood Place
Planned Development Rezoning

Final PD Approval:

The Commission's role shall be to review any application for Final PD Plan approval and **make a recommendation to the Director to approve, approve with conditions, or deny the application** based on its compliance with Section 1156.03 of this Code.

14519 Detroit Avenue
One Lakewood Place
Planned Development Rezoning

Final PD Approval:

- Precise setbacks for the project
- Finalize heights for all building types (not to exceed)
- Lot coverage percentage
- Finalize approach to use groups on site:
 - Commercial uses
 - Residential uses
 - Parking
 - Community gathering space
- Vehicle circulation
 - Traffic Study
 - Bike and Pedestrian movement
 - Public Safety
 - Services & Deliveries
 - Customer, resident, and visitor circulation
- Landscape & Streetscape Improvement Plans
- Lighting Plan
- Parking Plan

14519 Detroit Avenue
One Lakewood Place
Planned Development Rezoning

Minimums are driven by the terms of the Development and Use Agreement

COMMERCIAL USE

- Minimum of **100,000 square feet combined of office and retail space.**
- No less than **35,000 square feet of office space and 25,000 square feet of retail space.**
- May convert up to 40,000 square feet of the minimum combined commercial component to residential use in response to market conditions.

RESIDENTIAL USE

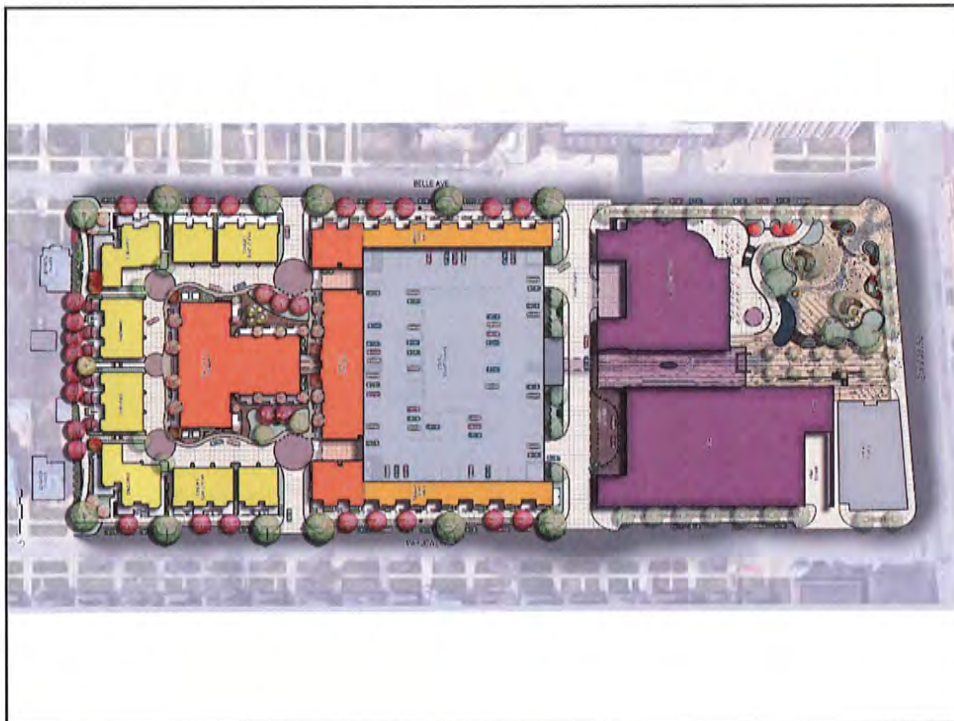
- No less than **100,000 square feet or 140 residential units**, whichever is less.

14519 Detroit Avenue
One Lakewood Place
Planned Development Rezoning

Approval Notes

- **Community Gathering Space**
Your approval of specifically the community gathering space is related to the use of the ½ acre of property on the corner of Belle and Detroit as a first class, multi-functional community gathering space available for public use, as well as the greenspace associated with the plan.
- Final design of community gathering space is to be approved by ABR
- **Outdoor dining** will return in the future as a conditional use request
Outdoor Dining shall be governed by Chapter 1161 of Lakewood's Zoning Code. The Planning Commission may exceed the maximum percentage of seats allowable on a case-by-case basis provided the seats are in the outdoor dining areas.
- **Lot Consolidation** will come at a future Planning Commission meeting
- Recommend the **condition on the final PD approval by the ABR**
- As part of the O&M Plan negotiations between the developer and the city, **tree maintenance will be included.**

14519 Detroit Avenue
One Lakewood Place
Planned Development Rezoning



Request

1156.04(e)(5)

The Commission's role shall be to review all applications for Final PD Plan approval and make a recommendation to the Director to approve, approve with conditions, or deny the application based on compliance with Section 1156.03

1156.04 (e)(7)

Upon receipt of the approved Final PD Plan from the Commission the Director shall forward to the Architectural Board of Review for review of the application based on compliance with the standards set forth in subsection (j) below.

(j) Standards for Review (ABR)

(3) All applications for PD's shall demonstrate compliance with the requirements and review standards set forth in Section 1156.05 of the Code and Chapter 1325 of the Building Code.

14519 Detroit Avenue
One Lakewood Place
Planned Development Rezoning

Docket No. 03-05-19

13900 Lake Avenue

LAKE AVENUE HOMES



- I. Introduction of Planned Development Code**
- II. Developer Presentation**
- III. City Analysis**
- IV. Planning Commission questions & feedback**
- V. Public comment & questions**
- VI. Discussion on comments & questions**
- VII. Vote**



Planned Development Review Process

- 1) Introduction to City Council - March 4th, 2019 – Referred to Planning Commission
- 2) Planning Commission to Review for Preliminary Approval – March 7th
- 3) Architectural Board of Review – Reviews as directed in 1156.05 Design Elements - Approved April 11th
- 4) Planning Commission to Review for Final Approval**
- 5) City Council Vote for Re-zoning of property

13900 Lake Avenue
Lake Avenue Homes
Planned Development

**Request
Final PD Approval**

The Commission's role shall be to review any application for Final PD Plan approval and **make a recommendation to the Director to approve, approve with conditions, or deny the application** based on its compliance with Section 1156.03 of this Code.

13900 Lake Avenue
Lake Avenue Homes
Planned Development

1156.01 PURPOSE.

(b) Planned Development Zoning is intended to encourage development which is consistent with the Community Vision including **more compact development, pedestrian-friendly site design**, urban street character, **energy-efficient design**, industry best practices, and **accommodation of a range of compatible land uses through appropriate site design**. PDs are intended to permit a more flexible approach to land use control and to **promote a variety of housing types**.

(c) A PD encourages the development of **compact, pedestrian-scaled, neighborhoods while providing greater efficiencies in use of infrastructure**. It is intended to help advance revitalization initiatives and **recognize the market demand for new residential and commercial development within compact, pedestrian friendly districts**. PD zoning is intended to work in conjunction with the proactive development of pocket parks, open spaces, and the creation of public spaces within the districts. PD Zoning specifically discourages those uses that: promote a strip center development pattern, promote idle land and over parking, and detract from the image enhancement intentions of this district.

13900 Lake Avenue
Lake Avenue Homes
Planned Development

Final PD Approval includes:

- Precise setbacks for the project
- Finalize heights for all buildings
- Lot coverage percentage
- Defined use
- Vehicle circulation
- Landscape Plans
- Lighting Plan

13900 Lake Avenue
Lake Avenue Homes
Planned Development

1156.04 PD Timeframe

- An approved **Final PD Plan shall be valid for a period of two (2) years from the date City Council approves the rezoning.**
- Within the two (2) year period, the developer/owner shall:
 - Submit the plat portion
 - Undertake substantial construction

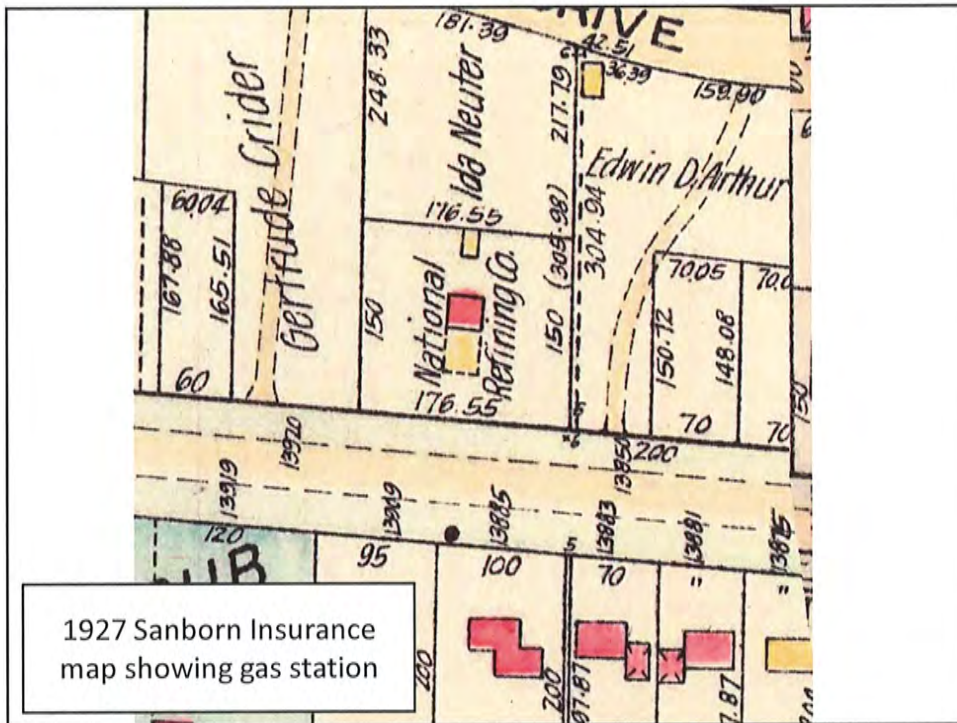
If these actions are not completed within the two (2) year time period, such Final PD Plan shall automatically lapse and become null and void.

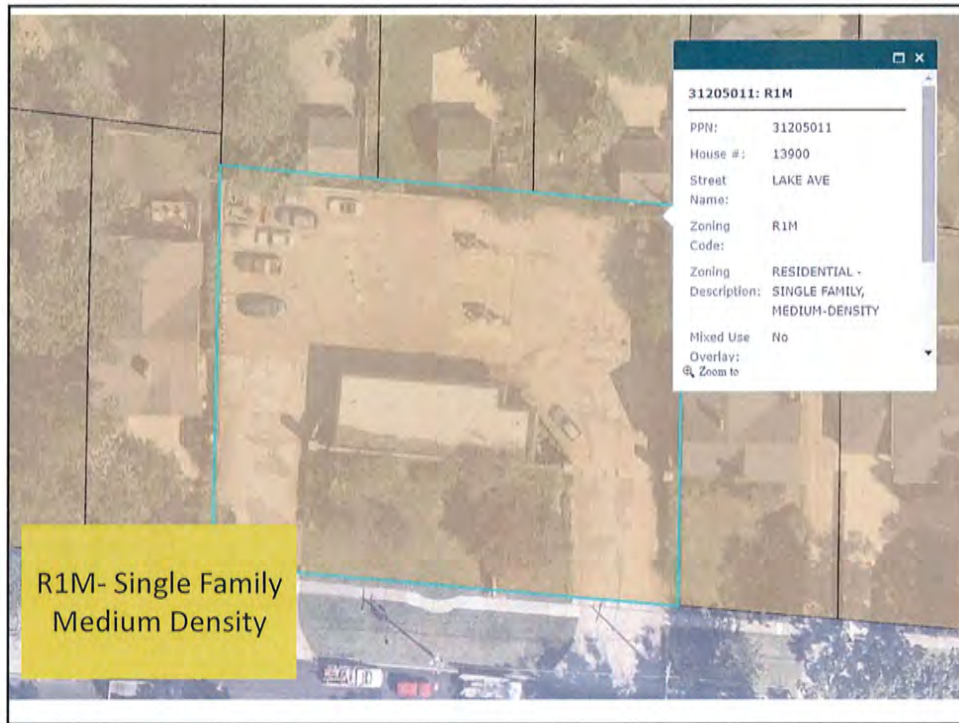
13900 Lake Avenue
Lake Avenue Homes
Planned Development

1156.04 Modification to the Final PD plans

- A minor modification must be reviewed and approved by the Commission and Architectural Board of Review.
- **The review of a major modification by the Commission, Architectural Board of Review and City Council shall be processed in accordance with the procedure for approval of a Preliminary and Final PD Plan as described in Section 1156.04(c) or Section 1156.04(d) and Section 1156.04(e).**

13900 Lake Avenue
Lake Avenue Homes
Planned Development







1156.02

(a) Past use of the site and the zoning of abutting properties will be considered as part of the approval process.

Existing Use

Gas station and Auto Mechanic Shop

Existing Non-Conforming Use

Zoning of abutting properties

Single Family Medium Density Residential

Proposed use of 5 single-family homes is more-conforming with the district

13900 Lake Avenue
Lake Avenue Homes
Planned Development

1156.03

(f) The proposed PD shall comply with the following requirements, which shall not be modified or varied **except as expressly set forth below or as permitted by the Commission.**

(2) Setbacks from adjoining residential uses. A Planned Development shall comply with any applicable zone district standards that require minimum setbacks from adjoining residential uses or properties as set forth in Chapter 1121 and 1123.

1156.06 DEVIATIONS FROM OTHER REGULATIONS.

(a) The Commission may approve deviations from other applicable regulations of this Code controlling development within a PD, provided that the **Commission shall find that such deviation shall be solely for the purpose of promoting an integrated site plan and would be consistent with the Vision.**

13900 Lake Avenue
Lake Avenue Homes
Planned Development

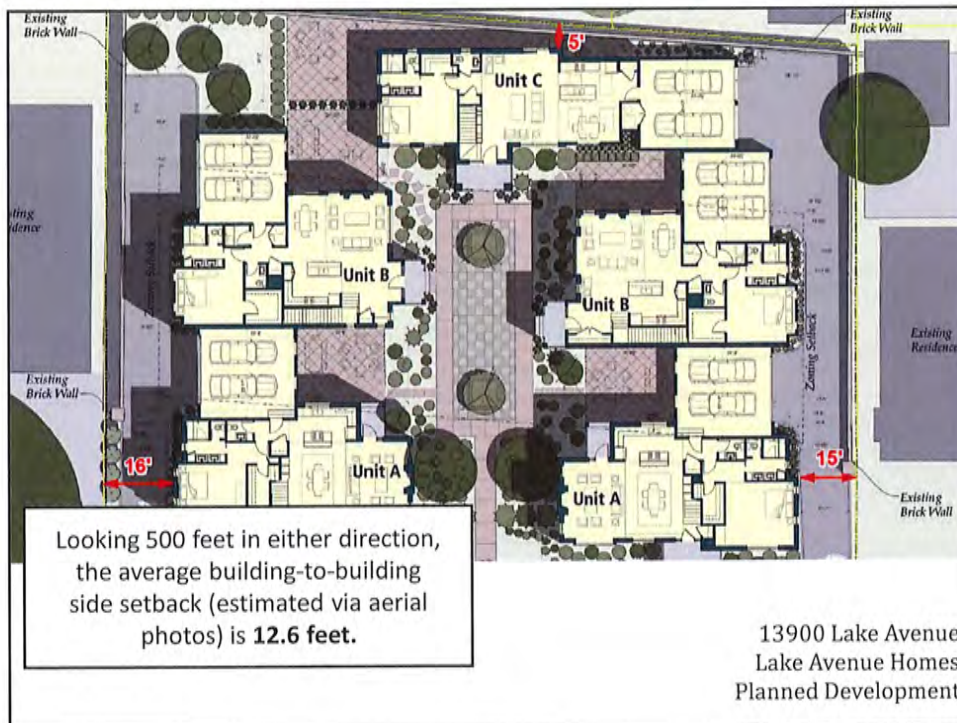
Housing

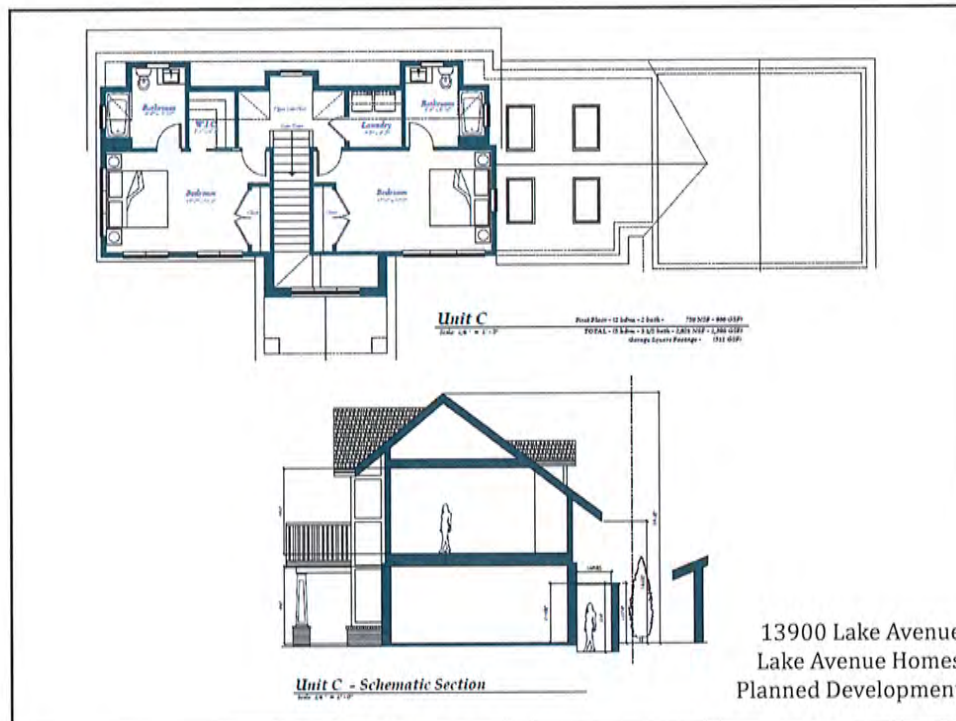
stewardship, options, quality

Protect and enhance the quality and character of our residential neighborhoods

Vision goals:

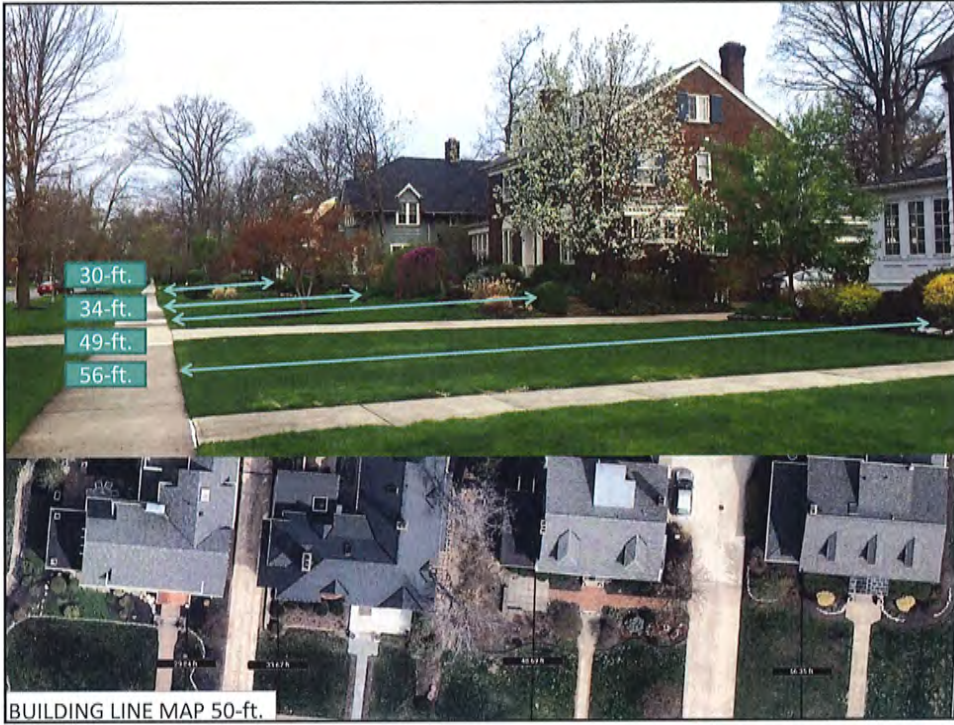
- Support a variety of housing options that meet the needs of our diverse community
- Provide a variety of housing types that meet the needs of the whole community including seniors, low-moderate income families, and special needs households
- Encourage new and infill development which is complementary to the scale and character of surrounding residential uses













FINDINGS

Existing Use

- Gas station and Auto Mechanic Shop, Existing Non-Conformity
Proposed use of 5 single-family homes is more-conforming with the district, reduces noise and traffic volumes for the neighborhood

Deviation from setback of adjoining residential uses

Commission shall find that such deviation shall be solely for the purpose of promoting an integrated site plan and would be consistent with the Vision

- Provide a variety of housing types that meet the needs of the whole community including seniors, low-moderate income families, and special needs households
First floor masters provide one-floor living that is desired by Lakewood seniors, but few options are currently available.

Other Goals of the Vision

- Encourage new and infill development which is complementary to the scale and character of surrounding residential uses
Height and approved design are responsive to neighborhood.
- Pedestrian friendly site-design
Reduction of traffic and curb cut widths improves pedestrian safety.

13900 Lake Avenue
Lake Avenue Homes
Planned Development

Request

1156.04(e)(5)

The Commission's role shall be to review all applications for Final PD Plan approval and make a recommendation to the Director to approve, approve with conditions, or deny the application based on compliance with Section 1156.03

13900 Lake Avenue
Lake Avenue Homes
Planned Development

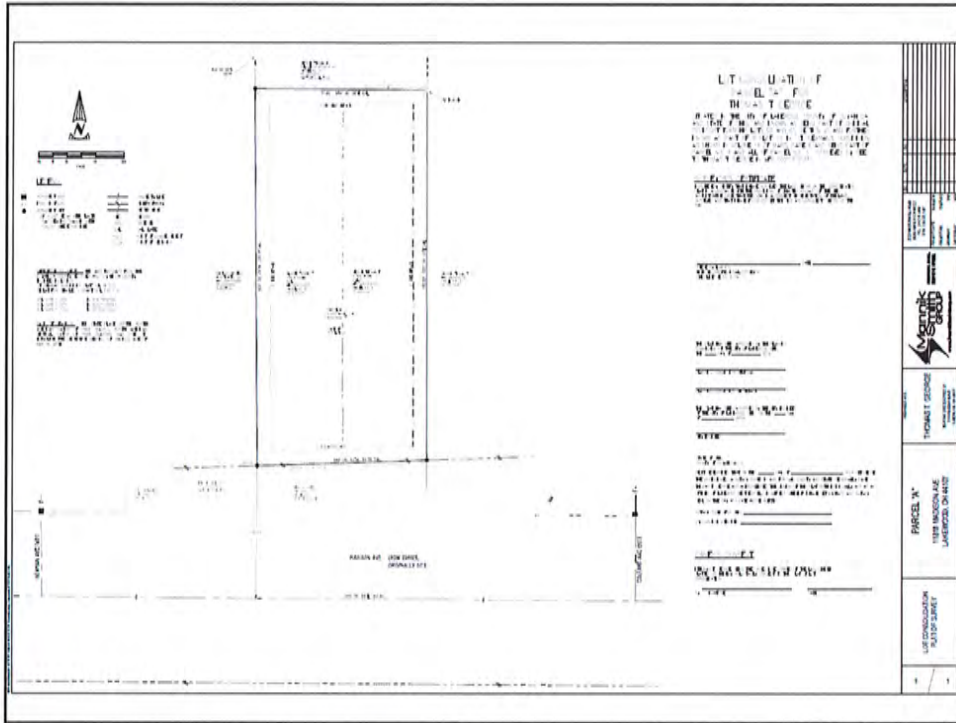
Docket No. 05-15-19
11818 Madison Avenue
GTI OHIO LLC

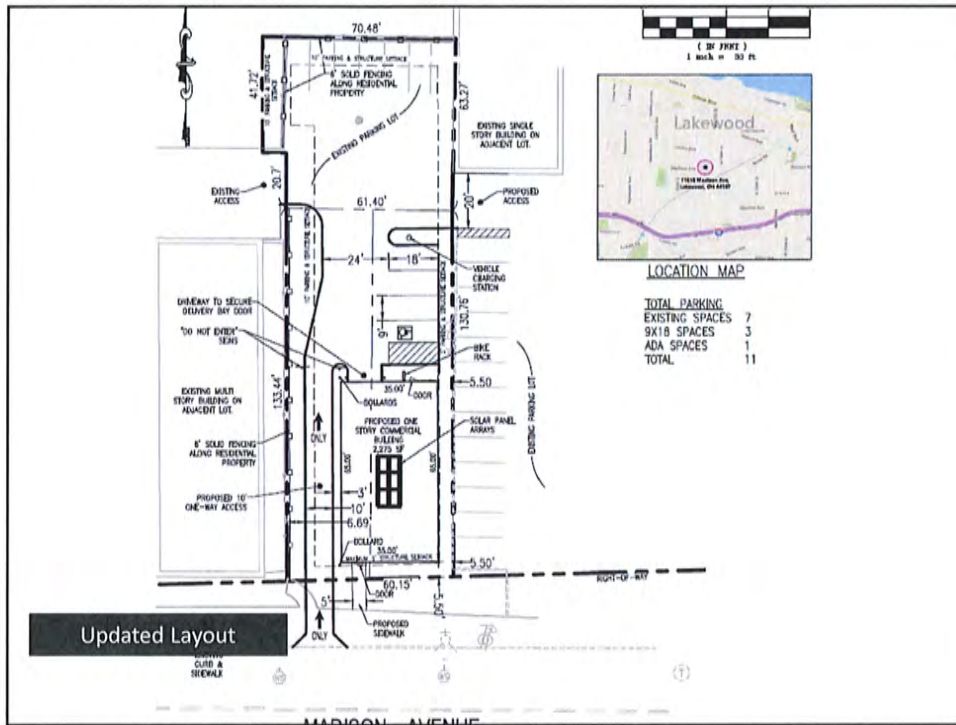


Request

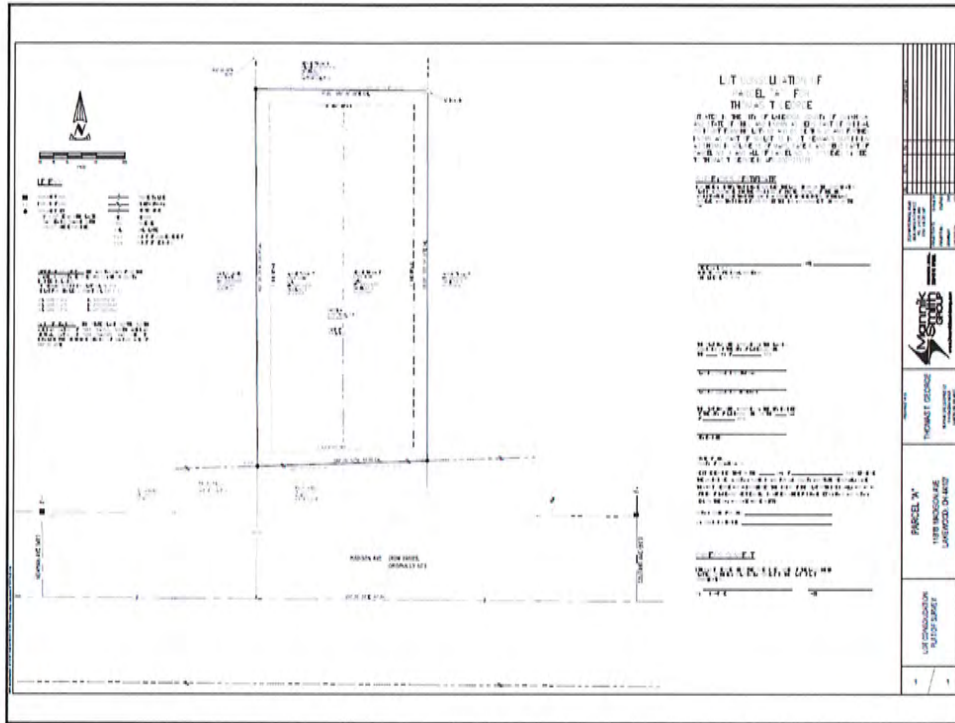
The review and approval for the lot consolidation of PPN 315-15-020 and 315-15-021, pursuant to section 1155.06 - lot consolidations. The property is located in a C3 - Commercial, General Business district.

11818 Madison Avenue
GTI Ohio LLC
Lot Consolidation









Request

The review and approval for the lot consolidation of PPN 315-15-020 and 315-15-021, pursuant to section 1155.06 - lot consolidations. The property is located in a C3 - Commercial, General Business district.

11818 Madison Avenue
GTI Ohio LLC
Lot Consolidation

Docket No. 05-11-19
17600 Detroit Avenue

CASTLEWOOD APARTMENTS

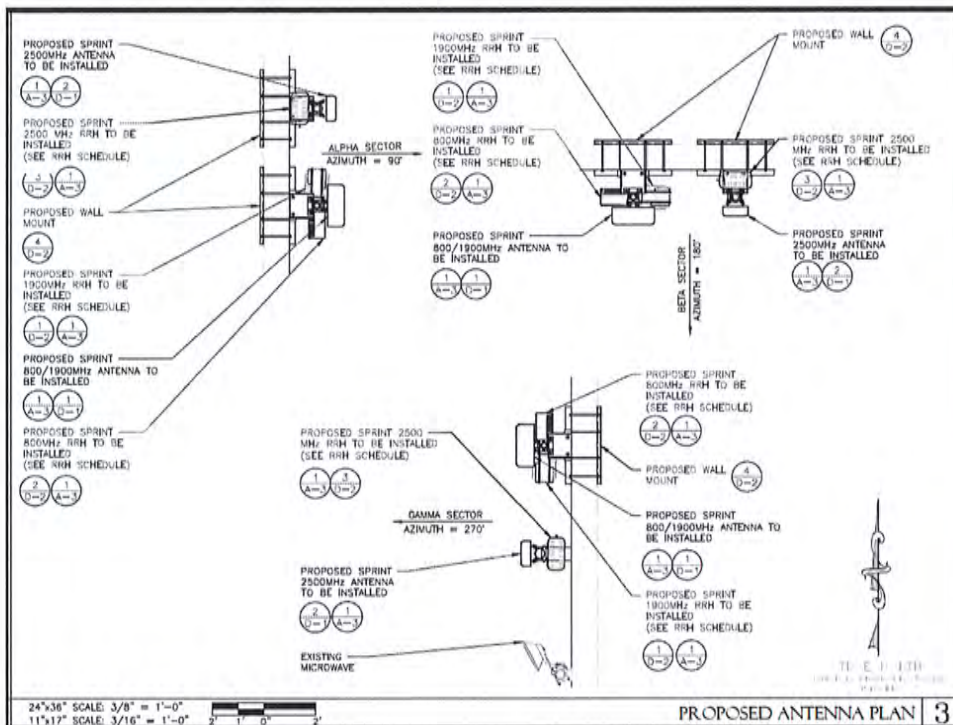
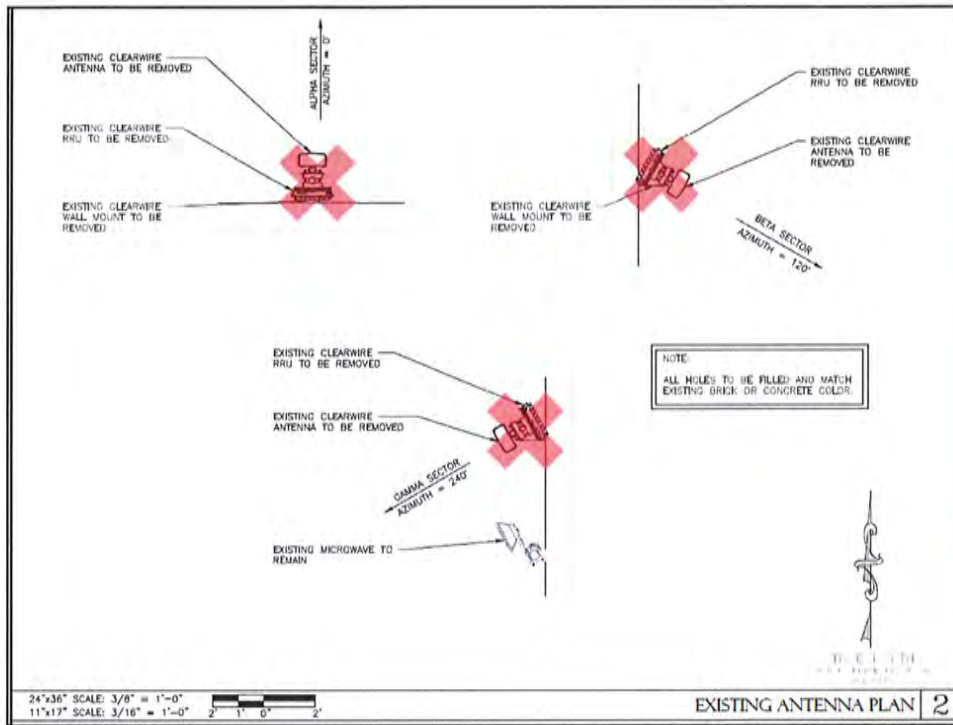


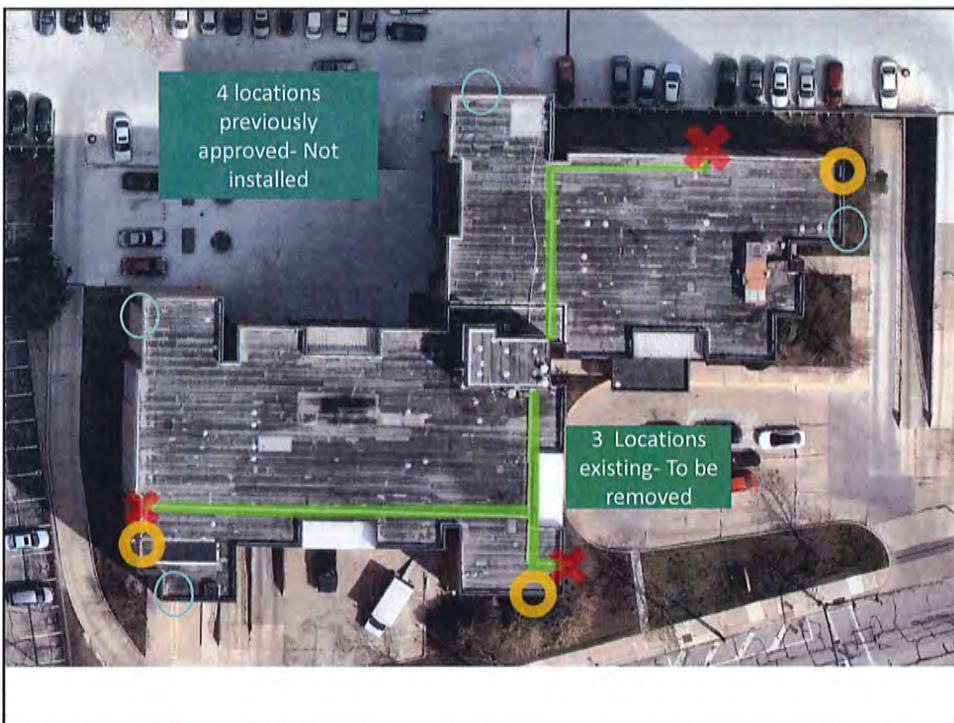
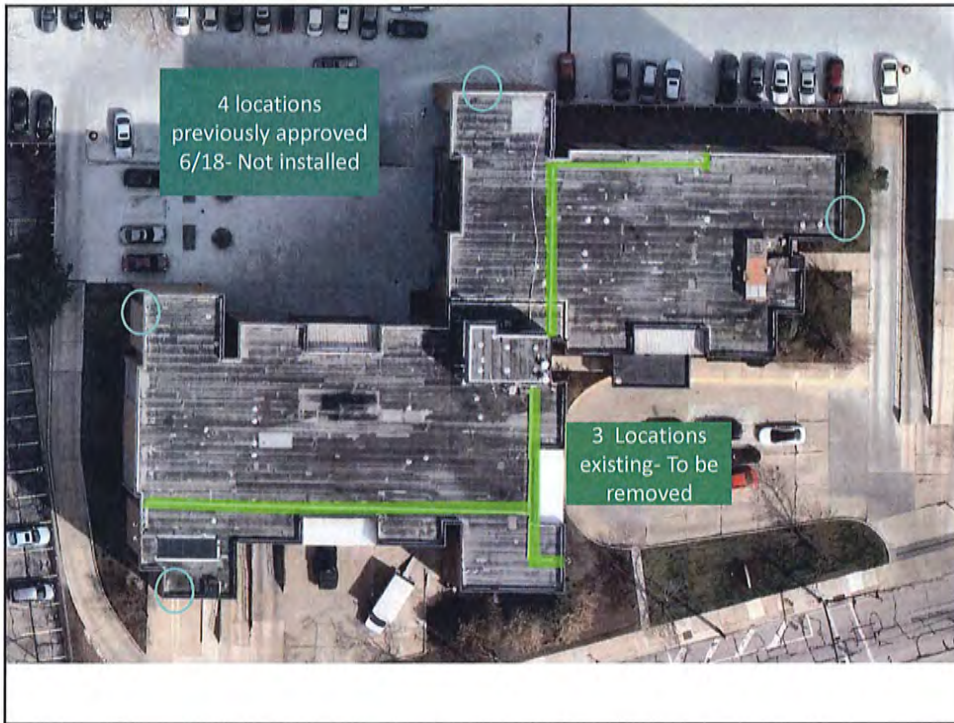
Request

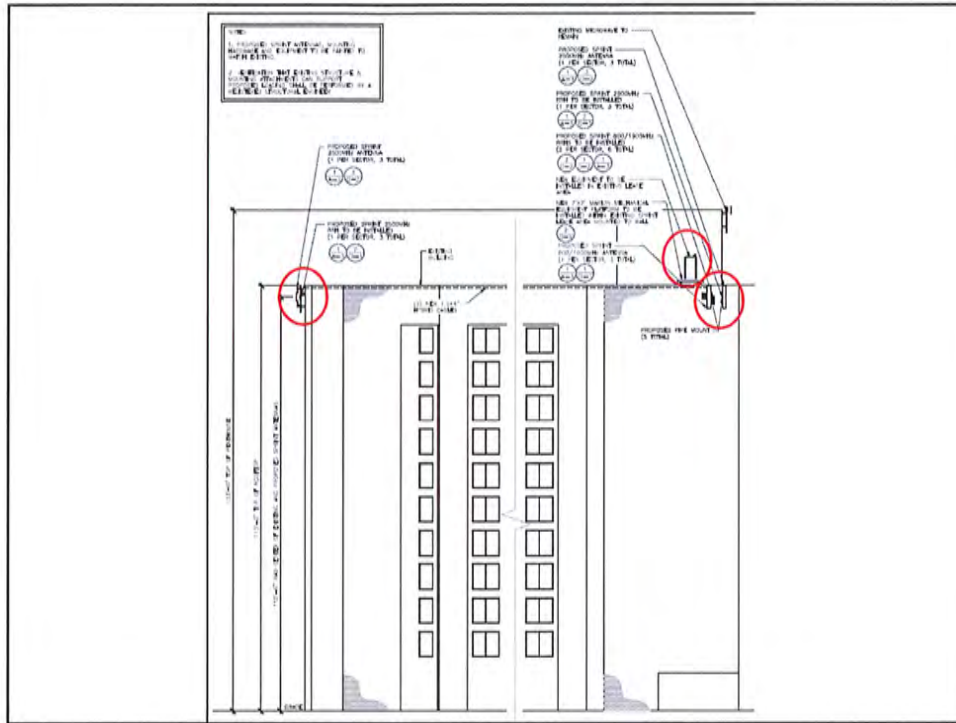
The review and approval for the installation of new antennas, cables, RRHS, and jumpers; all existing clearwire equipment will be removed, pursuant to section 1157.02 – antennas regulations. The property is located in a C2 - Commercial, Retail district.

17600 Detroit Ave
Castlewood Apartments
Conditional Use









- Less than 12' in length
- In line with Parapet
- Painted to match brick building

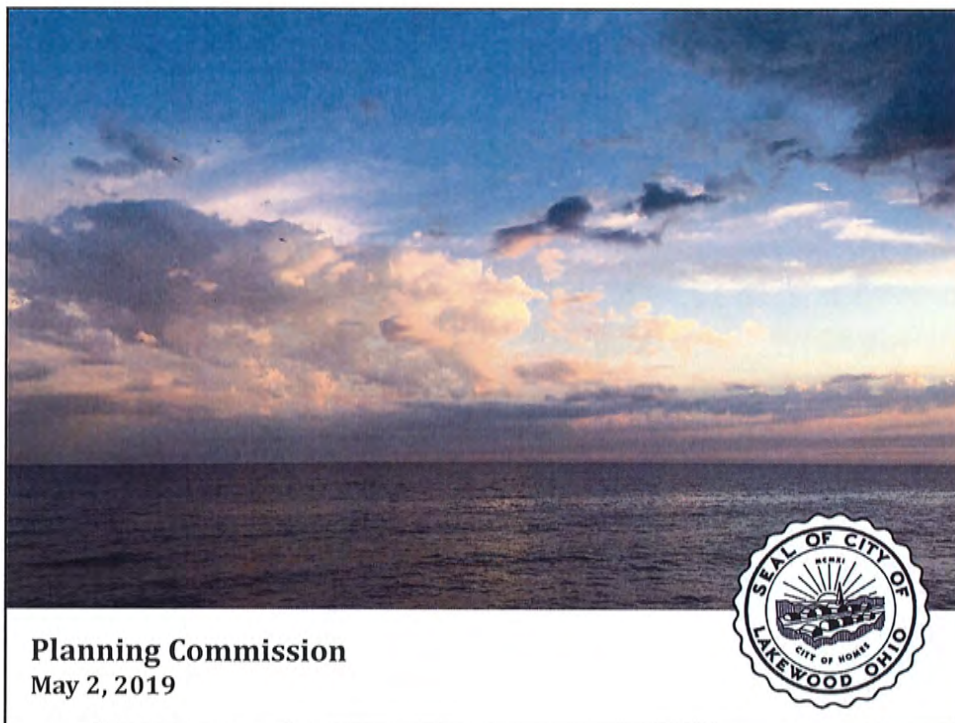




Request

The review and approval for the installation of new antennas, cables, RRHS, and jumpers; all existing clearwire equipment will be removed, pursuant to section 1157.02 – antennas regulations. The property is located in a C2 - Commercial, Retail district.

17600 Detroit Ave
Castlewood Apartments
Conditional Use



Planning Commission
May 2, 2019



Issues

- **Building line setback**
The building line setback along this stretch of Lake is 50-ft. The development proposes houses that have porches that will project as close as 19-ft. The building foundations have an approximately 30' setback.
- **Rear yard setback**
The rear yard setback is currently 5' for the two-story portion of the house. Per R1M code, the required rear yard depth is 40'. Deviation from setback of adjoining residential uses can be modified by the Commission.
- **Density**
5 units are currently proposed where three would be reflective of the neighborhood density.
- **Driveway access**
Driveways currently serve 2-3 units.
- **Abatement funding**
The City and the Developer have researched options for abatement funding.
- **Precedent of approval as it relates to PD being used in other residential areas**

13900 Lake Avenue
Lake Avenue Homes
Planned Development

Lake Avenue Homes



City of Lakewood - Planning Commission Presentation

04.26.2019



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Lake Avenue Homes
Lakewood, Ohio

Site Aerial

0 8 16 32 feet



02.27.2019

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W X Z Lake Avenue Homes
Lakewood, Ohio

Site Aerial

0 20 40 80 feet



04.26.2019

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W X Z Lake Avenue Homes
Lakewood, Ohio

Site Aerial

0 8 16 32 feet



03.14.2019

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W X Z Lake Avenue Homes
Lakewood, Ohio

Site Aerial

0 8 16 32 feet



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W X Z Lake Avenue Homes
Lakewood, Ohio

Site Aerial

0 8 16 32 feet



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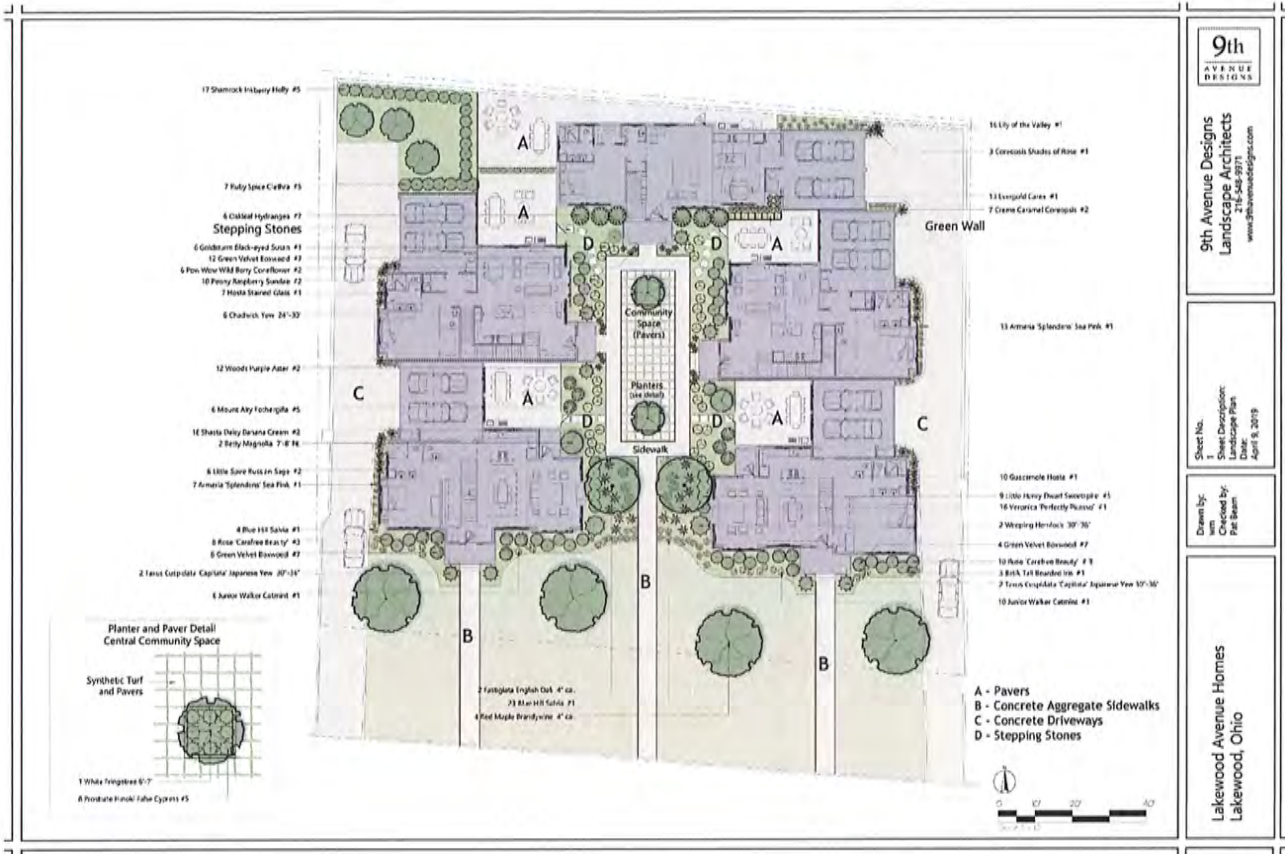
Total Site Area - 606 acres = 38,435 sf

Site Covering Square Footage

1) Buildings includes porches -	9983 sf	
2) Brick Wall & Piers -	320 sf	
3) Driveways, includes curbs -	4052 sf	
4) Unit Permeable Patios -	2134 sf	
5) Middle Permeable Patio -	605 sf	
6) Common Sidewalk Around Central Area -	553 sf	
7) Sidewalks and Front Steps -	522 sf	
8) 23 - 4ft stepping stones -	92 sf	
Totals:		
Non Pervious - 1, 2, 3, 6, 7, 8	15,520 sf -	58.6%
Semi Pervious - 4, 5,	2,739 sf -	10.4%
Pervious	8,158 sf -	30.8%

Previous gas station site was

Non Pervious	22,040 sf	85.7%
Pervious	3,775 sf -	14.3%



9th
AVENUE
DESIGNS

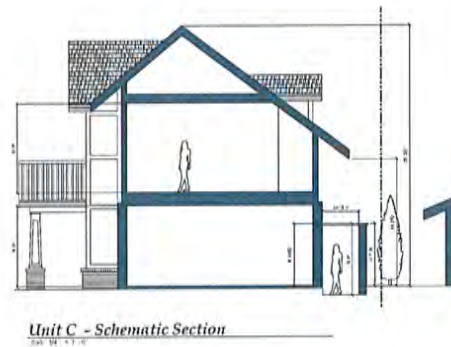
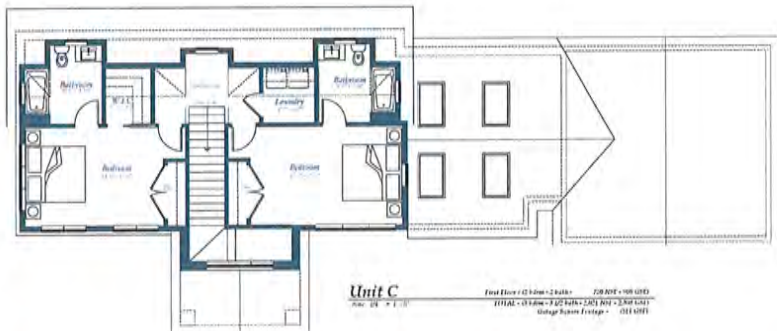
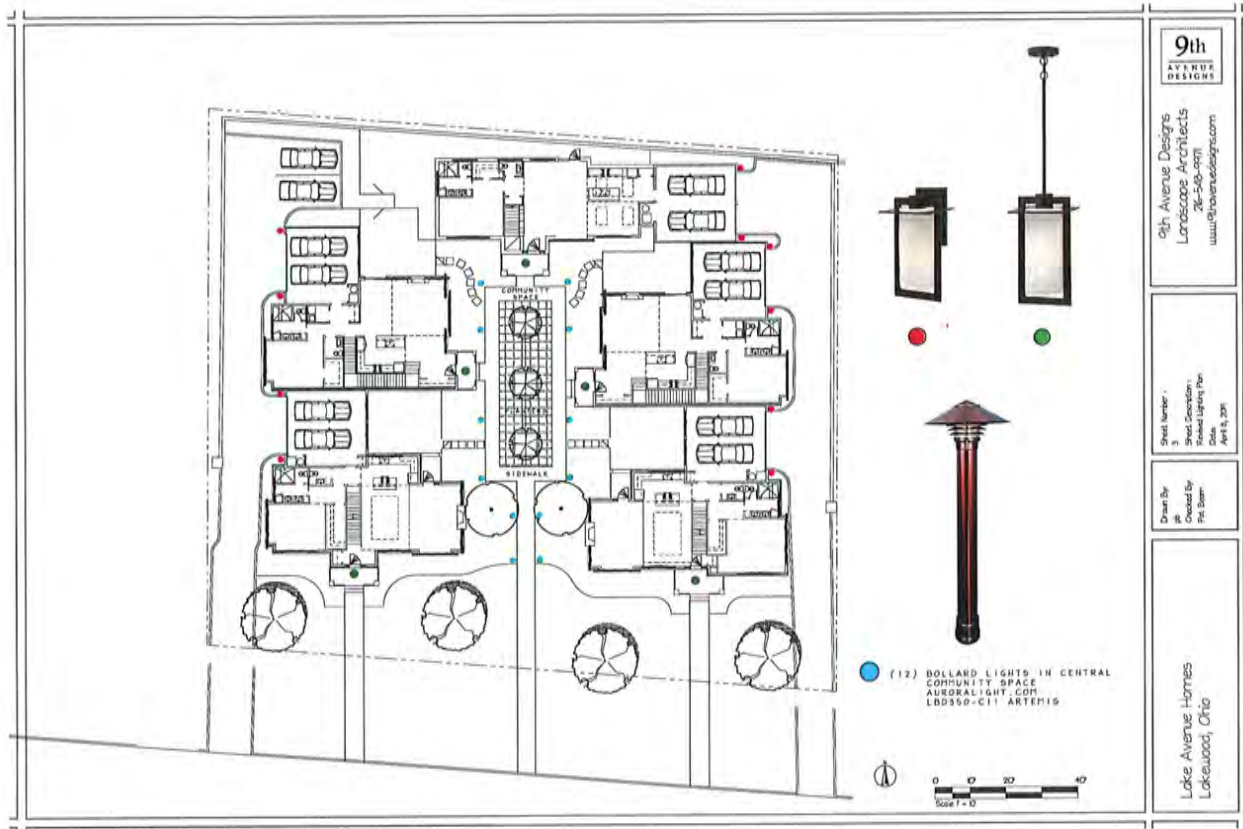
9th Avenue Designs
Landscape Architects
www.9thavenuedesigns.com

Sheet No.
Sheet Description:
Landscape Plan
Date:
April 3, 2019

Drawn By:
Reviewed By:
Pat Beem

Lake Avenue Homes
Lakewood, Ohio



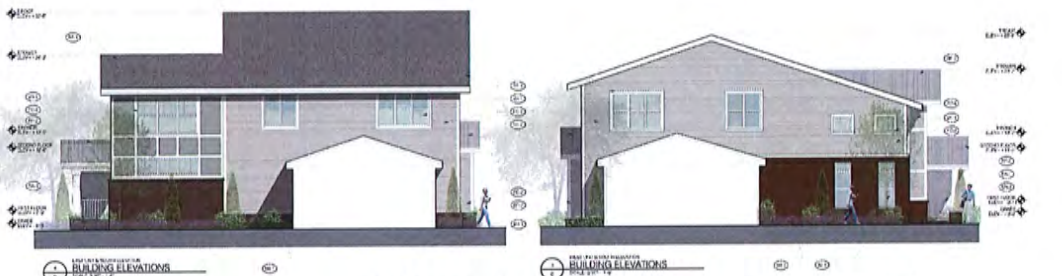




EXTERIOR FINISH LEGEND		
MASONRY	FAIR CEMENT BOARD	ROOF
Material: Brick Color: Brown Size: 8 1/2" x 3 1/2" x 1 5/8" Mortar: S/L Mortar	Material: Fair Cement Siding Type: F/Style - as Shown Color: Charcoal Size: 4" x 8" Lap Horizontal	Material: Asphalt Shingles Type: F/Style - as Shown Color: Gray Notes: 30 Year, 15 Year, 10 Year, 5 Year, 2 Year, 1 Year
Material: Brick Color: Dark Red Size: 8 1/2" x 3 1/2" x 1 5/8" Mortar: S/L Mortar	Material: Fair Cement Siding Type: F/Style - as Shown Color: Charcoal Size: 4" x 8" Lap Horizontal	Material: Hardwood Siding Type: F/Style - as Shown Color: Gray Notes: 30 Year, 15 Year, 10 Year, 5 Year, 2 Year, 1 Year
PREMANUFACTURED STONE	WOOD	WINDOWS
Material: Pre-manufactured Stone Type: F/Style - as Shown Color: Charcoal Size: 12" x 12" x 4" Mortar: S/L Mortar Notes: Lap Stone at Top of Wall	Material: Fair Cement Siding Type: F/Style - as Shown Color: Charcoal Size: 4" x 8" Lap Horizontal	Material: Aluminum Clad Wood - All Sides Type: F/Style - as Shown Color: Charcoal Notes: 30 Year, 15 Year, 10 Year, 5 Year, 2 Year, 1 Year
Material: PVC Cladding Type: F/Style - as Shown Color: Dark Brown Size: 12" x 12" x 4" Notes: Lap Stone at Top of Wall	Material: Fair Cement Siding Type: F/Style - as Shown Color: Charcoal Size: 4" x 8" Lap Horizontal	Material: Aluminum Clad Wood - All Sides Type: F/Style - as Shown Color: Charcoal Notes: 30 Year, 15 Year, 10 Year, 5 Year, 2 Year, 1 Year
Material: PVC Cladding Type: F/Style - as Shown Color: Dark Brown Size: 12" x 12" x 4" Notes: Lap Stone at Top of Wall	Material: Fair Cement Siding Type: F/Style - as Shown Color: Charcoal Size: 4" x 8" Lap Horizontal	Material: Aluminum Clad Wood - All Sides Type: F/Style - as Shown Color: Charcoal Notes: 30 Year, 15 Year, 10 Year, 5 Year, 2 Year, 1 Year
PAVING		
Material: Paving Stone Type: F/Style - as Shown Color: Charcoal Size: 12" x 12" x 4" Notes: Lap Stone at Top of Wall		



EXTERIOR FINISH LEGEND		
MASONRY	FAIR CEMENT BOARD	ROOF
Material: Brick Color: Brown Size: 8 1/2" x 3 1/2" x 1 5/8" Mortar: S/L Mortar	Material: Fair Cement Siding Type: F/Style - as Shown Color: Charcoal Size: 4" x 8" Lap Horizontal	Material: Asphalt Shingles Type: F/Style - as Shown Color: Gray Notes: 30 Year, 15 Year, 10 Year, 5 Year, 2 Year, 1 Year
Material: Brick Color: Dark Red Size: 8 1/2" x 3 1/2" x 1 5/8" Mortar: S/L Mortar	Material: Fair Cement Siding Type: F/Style - as Shown Color: Charcoal Size: 4" x 8" Lap Horizontal	Material: Hardwood Siding Type: F/Style - as Shown Color: Gray Notes: 30 Year, 15 Year, 10 Year, 5 Year, 2 Year, 1 Year
PREMANUFACTURED STONE	WOOD	WINDOWS
Material: Pre-manufactured Stone Type: F/Style - as Shown Color: Charcoal Size: 12" x 12" x 4" Mortar: S/L Mortar Notes: Lap Stone at Top of Wall	Material: Fair Cement Siding Type: F/Style - as Shown Color: Charcoal Size: 4" x 8" Lap Horizontal	Material: Aluminum Clad Wood - All Sides Type: F/Style - as Shown Color: Charcoal Notes: 30 Year, 15 Year, 10 Year, 5 Year, 2 Year, 1 Year
Material: PVC Cladding Type: F/Style - as Shown Color: Dark Brown Size: 12" x 12" x 4" Notes: Lap Stone at Top of Wall	Material: Fair Cement Siding Type: F/Style - as Shown Color: Charcoal Size: 4" x 8" Lap Horizontal	Material: Aluminum Clad Wood - All Sides Type: F/Style - as Shown Color: Charcoal Notes: 30 Year, 15 Year, 10 Year, 5 Year, 2 Year, 1 Year
Material: PVC Cladding Type: F/Style - as Shown Color: Dark Brown Size: 12" x 12" x 4" Notes: Lap Stone at Top of Wall	Material: Fair Cement Siding Type: F/Style - as Shown Color: Charcoal Size: 4" x 8" Lap Horizontal	Material: Aluminum Clad Wood - All Sides Type: F/Style - as Shown Color: Charcoal Notes: 30 Year, 15 Year, 10 Year, 5 Year, 2 Year, 1 Year
PAVING		
Material: Paving Stone Type: F/Style - as Shown Color: Charcoal Size: 12" x 12" x 4" Notes: Lap Stone at Top of Wall		



EXTERIOR FINISH LEGEND							
MASONRY	FIBER CEMENT BOARD	WOOD	ROOF	DOORS	MANUFACTURED STONE	PAVING	WINDOWS
Material: Brick Color: Brown Size: 8" x 16" x 16" Notes: Full Mortar	Material: Fiber Cement Siding Type: 1/2" Hardie Board Color: White Size: 48" x 96" Notes: Full Mortar	Material: Hardie Board Type: 1/2" Hardie Board Color: White Size: 48" x 96" Notes: Full Mortar	Material: Asphalt Shingles Type: 30 Year Color: Dark Grey Notes: Full Mortar	Material: Fiberglass Type: 1/2" Hardie Board Color: White Size: 48" x 96" Notes: Full Mortar	Material: Manufactured Stone Type: 1/2" Hardie Board Color: White Size: 48" x 96" Notes: Full Mortar	Material: Concrete Type: 4" Thick Color: Grey Size: 12" x 12" Notes: Full Mortar	Material: Vinyl Siding Type: 1/2" Hardie Board Color: White Size: 48" x 96" Notes: Full Mortar



W X Z Lake Avenue Homes
Lakewood, Ohio

EXTERIOR ELEVATIONS

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Lake Avenue View North

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Lake Avenue Homes
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Lake Avenue View West

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Lake Avenue Homes
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Lake Avenue View East

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Lake Avenue Homes
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Interior Court View Northwest

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Lake Avenue Homes
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Interior Court View Northwest

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W X Z Lake Avenue Homes
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Interior Court View Southwest

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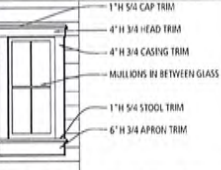
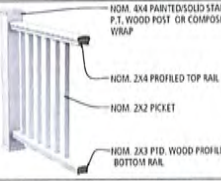



W X Z Lake Avenue Homes
Lakewood, Ohio

Interior Court View Southwest

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 <p>1 GARAGE DOORS 2024</p> <p>Type: Composite or Fiberglass Finish: White Factory Finished Paint Trim: 1 1/2" x 3" x 1/4" or 1 1/2" x 1 1/2" Glass: Clear or Anodized Hardware: Stainless Steel or Brass</p>	 <p>2 ENTRY DOORS 2024</p> <p>Type: Composite or Fiberglass Finish: White Factory Finished Paint Trim: 1 1/2" x 3" x 1/4" or 1 1/2" x 1 1/2" Glass: Clear or Anodized Hardware: Stainless Steel or Brass</p>	 <p>3 PORCH COLUMNS 2024</p> <p>Type: Composite or Fiberglass Finish: White Factory Finished Paint Trim: 1 1/2" x 3" x 1/4" or 1 1/2" x 1 1/2" Glass: Clear or Anodized Hardware: Stainless Steel or Brass</p>	 <p>4 LIGHT FIXTURES 2024</p> <p>Type: Composite or Fiberglass Finish: White Factory Finished Paint Trim: 1 1/2" x 3" x 1/4" or 1 1/2" x 1 1/2" Glass: Clear or Anodized Hardware: Stainless Steel or Brass</p>
 <p>5 GARAGE DOORS 2024</p> <p>Type: Composite or Fiberglass Finish: White Factory Finished Paint Trim: 1 1/2" x 3" x 1/4" or 1 1/2" x 1 1/2" Glass: Clear or Anodized Hardware: Stainless Steel or Brass</p>	 <p>6 ENTRY DOORS 2024</p> <p>Type: Composite or Fiberglass Finish: White Factory Finished Paint Trim: 1 1/2" x 3" x 1/4" or 1 1/2" x 1 1/2" Glass: Clear or Anodized Hardware: Stainless Steel or Brass</p>	 <p>7 WINDOW/DOOR TRIM 2024</p> <p>Type: Composite or Fiberglass Finish: White Factory Finished Paint Trim: 1 1/2" x 3" x 1/4" or 1 1/2" x 1 1/2" Glass: Clear or Anodized Hardware: Stainless Steel or Brass</p>	 <p>8 LIGHT FIXTURES 2024</p> <p>Type: Composite or Fiberglass Finish: White Factory Finished Paint Trim: 1 1/2" x 3" x 1/4" or 1 1/2" x 1 1/2" Glass: Clear or Anodized Hardware: Stainless Steel or Brass</p>
 <p>9 FENCE 2024</p> <p>Type: Composite or Fiberglass Finish: White Factory Finished Paint Trim: 1 1/2" x 3" x 1/4" or 1 1/2" x 1 1/2" Glass: Clear or Anodized Hardware: Stainless Steel or Brass</p>	 <p>10 LARGE PLANTER BOX 2024</p> <p>Type: Composite or Fiberglass Finish: White Factory Finished Paint Trim: 1 1/2" x 3" x 1/4" or 1 1/2" x 1 1/2" Glass: Clear or Anodized Hardware: Stainless Steel or Brass</p>	 <p>11 PORCH RAILING 2024</p> <p>Type: Composite or Fiberglass Finish: White Factory Finished Paint Trim: 1 1/2" x 3" x 1/4" or 1 1/2" x 1 1/2" Glass: Clear or Anodized Hardware: Stainless Steel or Brass</p>	 <p>12 LIGHT FIXTURES 2024</p> <p>Type: Composite or Fiberglass Finish: White Factory Finished Paint Trim: 1 1/2" x 3" x 1/4" or 1 1/2" x 1 1/2" Glass: Clear or Anodized Hardware: Stainless Steel or Brass</p>



Lake Avenue Homes
Lakewood, Ohio

ARCHITECTURAL DETAILS

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Lake Avenue Homes
Lakewood, Ohio

Aerial
N.T.S.



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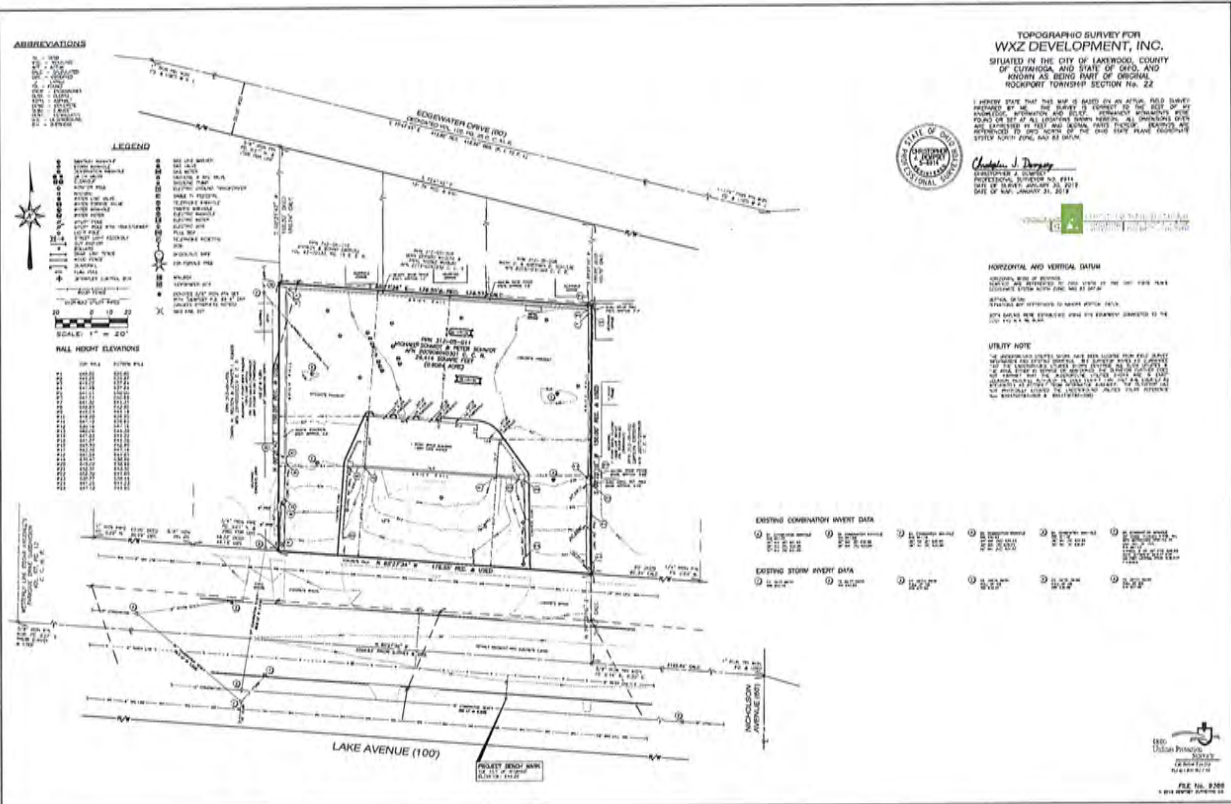


W X Z Lake Avenue Homes
Lakewood, Ohio

Contextual Imagery

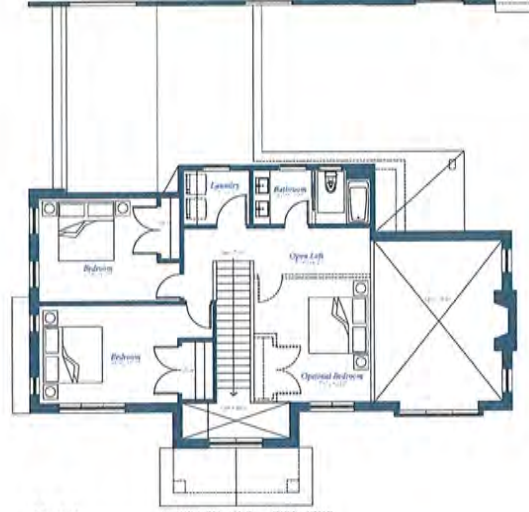
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Unit A
 Scale: 1/8" = 1'-0"
 First Floor - 01 Room - 1,472 SqFt - 1,393 SQF - 1,471 SQF
 TOTAL - 01 Room - 1,472 SqFt - 1,393 SQF - 1,471 SQF
 Roomed Figure Footage - 1,393 SQF
 Garage Figure Footage - 80 SQF



Unit A
 Scale: 1/8" = 1'-0"
 Second Floor - 02 Room - 1,472 SqFt - 1,393 SQF - 1,471 SQF
 TOTAL - 02 Room - 1,472 SqFt - 1,393 SQF - 1,471 SQF
 Roomed Figure Footage - 1,393 SQF
 Garage Figure Footage - 80 SQF



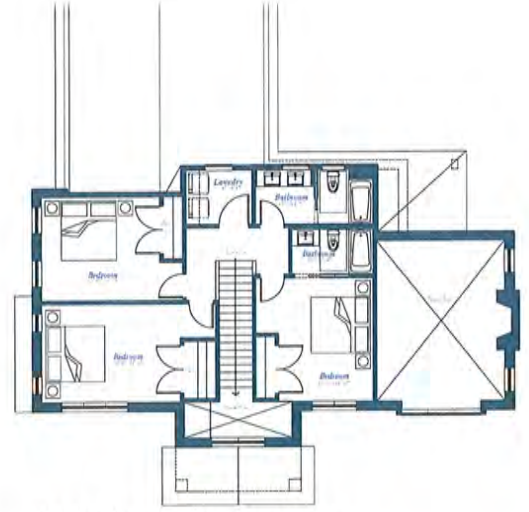
Lake Avenue Homes
 Lakewood, Ohio

04.04.2019

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Unit A - Alt
 Scale: 1/8" = 1'-0"
 First Floor - 01 Room - 1,472 SqFt - 1,393 SQF - 1,471 SQF
 TOTAL - 01 Room - 1,472 SqFt - 1,393 SQF - 1,471 SQF
 Roomed Figure Footage - 1,393 SQF
 Garage Figure Footage - 80 SQF



Unit A - Alt
 Scale: 1/8" = 1'-0"
 Second Floor - 02 Room - 1,472 SqFt - 1,393 SQF - 1,471 SQF
 TOTAL - 02 Room - 1,472 SqFt - 1,393 SQF - 1,471 SQF
 Roomed Figure Footage - 1,393 SQF
 Garage Figure Footage - 80 SQF



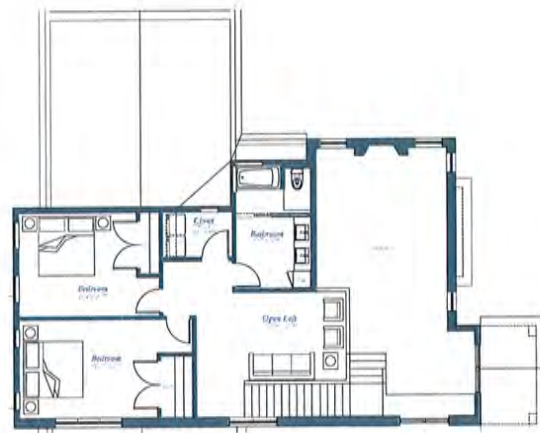
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 Lakewood, Ohio

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Unit B
 First Floor - 11 Bedrooms - 1 1/2 Bath - 1,262 SQ FT - 1,254 SQ FT
 TOTAL - 11 Bedrooms - 1 1/2 Bath - 1,262 SQ FT - 1,254 SQ FT
 Finished Square Footage - 1,262 SQ FT
 Garage Square Footage - 1,079 SQ FT



Unit B
 Second Floor - 10 Bedrooms - 1 Bath - 1,020 SQ FT - 1,018 SQ FT
 TOTAL - 11 Bedrooms - 1 1/2 Bath - 1,262 SQ FT - 1,254 SQ FT
 Finished Square Footage - 1,262 SQ FT
 Garage Square Footage - 1,079 SQ FT



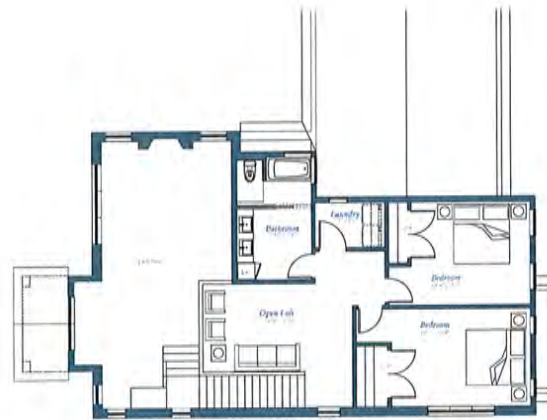
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 Lakewood, Ohio

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Unit B - Alt
 First Floor - 11 Bedrooms - 1 1/2 Bath - 1,262 SQ FT - 1,254 SQ FT
 TOTAL - 11 Bedrooms - 1 1/2 Bath - 1,262 SQ FT - 1,254 SQ FT
 Finished Square Footage - 1,262 SQ FT
 Garage Square Footage - 1,079 SQ FT



Unit B - Alt
 Second Floor - 10 Bedrooms - 1 Bath - 1,020 SQ FT - 1,018 SQ FT
 TOTAL - 11 Bedrooms - 1 1/2 Bath - 1,262 SQ FT - 1,254 SQ FT
 Finished Square Footage - 1,262 SQ FT
 Garage Square Footage - 1,079 SQ FT



Lake Avenue Homes
 Lakewood, Ohio

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Mr. Brad McLean
WXZ Development, Inc.
22720 Fairview Center Drive
Suite 150
Fairview Park, Ohio 44126

April 16, 2019

Trip Generation Assessment
Lake Avenue Homes
City of Lakewood, Ohio

Dear Mr. McLean:

The purpose of this letter is to provide a trip generation assessment for the proposed Lake Avenue Homes located in Lakewood, Ohio. This proposed development will be a low rise housing development that will consist of 5 total dwelling units. This assessment will compare the anticipated traffic volumes that would be generated by the proposed Lake Avenue Homes to the traffic which was previously generated by the former Marathon Gas Station that utilized the site. The sole access point serving the site will continue to be provided by Lake Avenue to the south of the subject property. See **Attachment 1** for a project location map and a conceptual site plan.

ITE Trip Generation

Trip generation calculations were performed for the former Marathon Gas Station as well as the proposed Lake Avenue Homes utilizing the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10th Edition*. This manual includes data from numerous trip generation studies of different land uses that have been performed by public agencies, developers, consulting firms and associations and submitted to ITE. It serves as a tool for estimating the number of vehicle trips generated by a proposed development. For this letter, the trip generation calculations will evaluate the AM and PM peak periods.

Former Trip Generation

The former Marathon Gas Station that previously operated on the site was determined to correspond to Land Use Code 944 (Gasoline/Service Station). According to information contained in the *ITE Trip Generation Manual, 10th Edition*, the former Marathon Gas Station would have been expected to generate the following trip ends:

LAND USE 944 – Gasoline/Service Station

- i. Average Weekday:
= 688 trip ends (344 enter and 344 exit)
- ii. Weekday AM Peak Hour (i.e. morning rush hour):
= 42 trip ends (21 enter and 21 exit)
- iii. Weekday PM Peak Hour (i.e. afternoon rush hour):
= 56 trip ends (28 enter and 28 exit)

The variable utilized in the trip generation calculations was "number of vehicle fueling positions," which in this case was four (4). It should be noted that the former gas station also has three (3) service bays, however their use is unknown and no trip generation was performed for these service bays. This approach was taken to provide a conservative estimate of the trips that would have been generated by the former Marathon Gas Station. See **Attachment 2** for the Gasoline/Service Station trip generation calculations.

Proposed Trip Generation

The proposed housing development was determined to correspond to Land Use Code 220 (Multifamily Housing (Low-Rise)). According to information contained in the *ITE Trip Generation Manual, 10th Edition*, the proposed housing development is estimated to generate the following trip ends:

LAND USE 220 – Multifamily Housing (Low-Rise)

- i. Average Weekday:
= 37 trip ends (19 enter and 18 exit)
- ii. Weekday AM Peak Hour (i.e. morning rush hour):
= 3 trip ends (1 enter and 2 exit)
- iii. Weekday PM Peak Hour (i.e. afternoon rush hour):
= 5 trip ends (3 enter and 2 exit)

Note that the variable utilized in the trip generation calculations was "number of dwelling units," which in this case is 5 units. See **Attachment 2** for the proposed Multifamily Housing (Low-Rise) trip generation calculations.

Trip Generation Comparison

In order to determine the projected traffic impact of the proposed redevelopment, a comparison of the former and proposed trip generation was performed to determine the net change that would be expected with regards to site traffic.

Land Use	AM Peak		PM Peak			
	Total	Entering	Exiting	Total	Entering	Exiting
Former Land Use						
Former Marathon Gas Station (LUC 944 – 4 Fueling Positions)	42	21	21	56	28	28
Proposed Land Use						
Proposed Housing Development (LUC 220 – 5 Units)	3	1	2	5	3	2
Net New Trip Differential	-39	-20	-19	-51	-25	-26

As shown in the, the redevelopment of the former Marathon Gas Station is anticipated to generate 39 less trips during the AM peak hour (-20 entering and -19 exiting) and 51 less trips during the PM peak hour (-25 entering and -26 exiting).

Summary

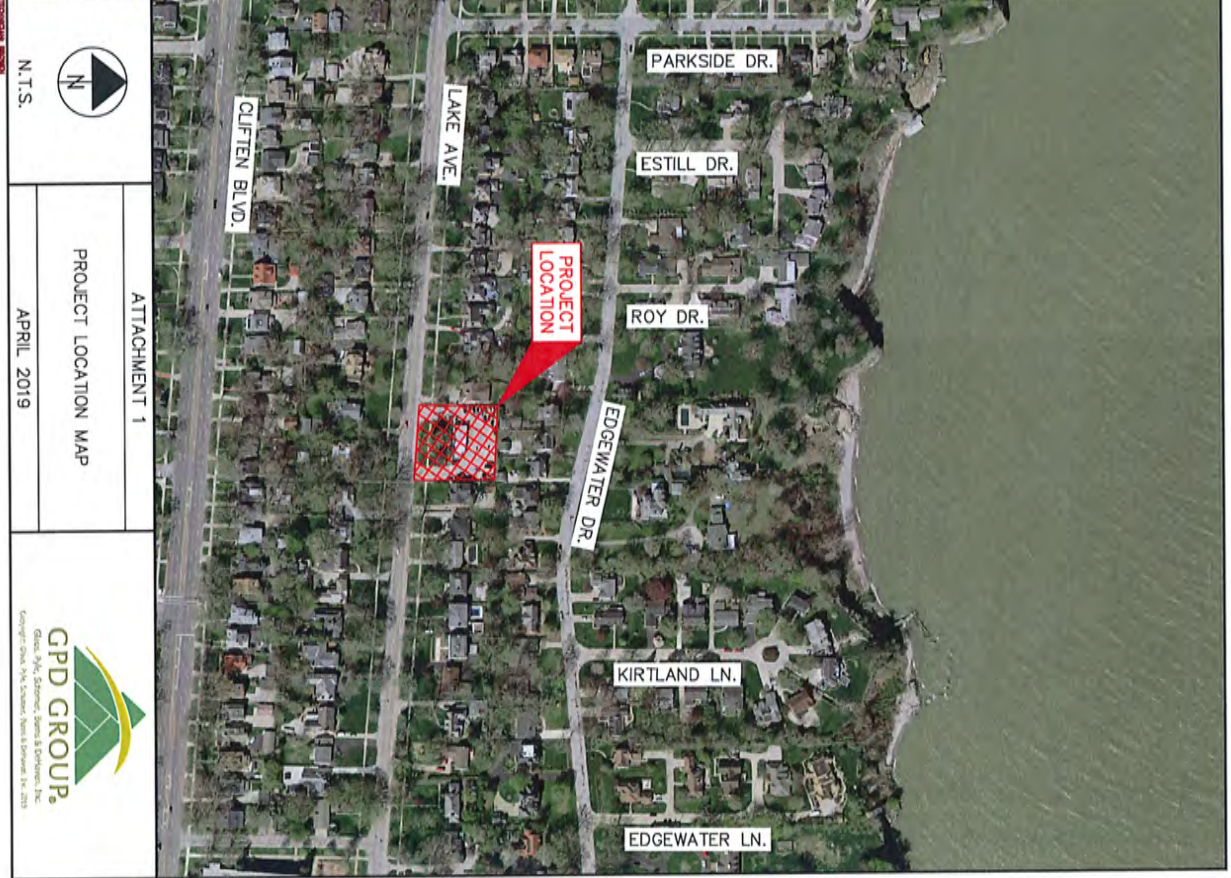
In summary, the proposed housing development will consist of 5 total dwelling units. Access to the site will continue to be provided by Lake Avenue. When compared to the amount of traffic that would have been generated by the former Marathon Gas Station that previously operated on the site, the proposed development will be expected to generate significantly less traffic over the course of an entire day and during the peak hours, which are the key periods for evaluating potential traffic impacts. The findings of this trip generation assessment indicate that the proposed land use will have less impact on the surrounding roadways and have no adverse effect when compared to the previous conditions.

Thank you for allowing GPD Group to provide these traffic engineering services for your project. If you have any questions, please feel free to contact me at (330) 572-2210 or via e-mail at rgillespie@gpdgroup.com.

Respectfully Submitted,



Ryan M. Gillespie, P.E., PTOE
Project Manager / Traffic Engineer
RMG/cjd



ITE Trip Generation Procedure

Land Use 944 (Gasoline/Service Station)

Trip Generations per Vehicle Fueling Positions
Setting / Location: General Urban / Suburban

Weekday Trip Generation and Trip Distribution

Trip Generation Formula: $T = 172.01 \cdot (X)$
where: T = Number of Trips Generated
X = Number of Vehicle Fueling Positions

Vehicle Fueling Positions: 4

Total Trip Ends in the Average Weekday: 688

Distribution Percentages of Entering and Exiting Trips, From ITE Trip Generation Manual, 10th Edition

Entering Trip Percentage: 50%
Exiting Trip Percentage: 50%
Number of Entering Trips: 344
Number of Exiting Trips: 344

AM Peak Trip Generation and Trip Distribution (Peak Hour of Adjacent Street)

Trip Generation Formula: $T = 10.28 \cdot (X)$

Total Trip Ends in the AM Peak Hour: 42

Distribution Percentages of Entering and Exiting Trips, From ITE Trip Generation Manual, 10th Edition

Entering Trip Percentage: 50%
Exiting Trip Percentage: 50%
Number of Entering Trips: 21
Number of Exiting Trips: 21

PM Peak Trip Generation and Trip Distribution (Peak Hour of Adjacent Street)

Trip Generation Formula: $T = 14.03 \cdot (X)$

Total Trip Ends in the PM Peak Hour: 56

Distribution Percentages of Entering and Exiting Trips, From ITE Trip Generation Manual, 10th Edition

Entering Trip Percentage: 50%
Exiting Trip Percentage: 50%
Number of Entering Trips: 28
Number of Exiting Trips: 28

ITE Trip Generation Procedure

Land Use 220 - Multifamily Housing (Low Rise)

Trip Generations Per Number of Dwelling Units
Setting / Location: General Urban / Suburban

Weekday Trip Generation and Trip Distribution

Average Rate Trip Generation Formula: $T = 7.32 * (X)$

where: T = Number of Trips Generated

X = Number of Dwelling Units

Proposed Number of Dwelling Units: 5

Total Trip Ends in the Average Weekday: 37

Distribution Percentages of Entering and Exiting Trips, From ITE Trip Generation Manual, 10th Edition

Entering Trip Percentage: 50%

Exiting Trip Percentage: 50%

Number of Entering Trips: 19

Number of Exiting Trips: 18

AM Peak Trip Generation and Trip Distribution (Peak Hour of Adjacent Street)

Fitted Curve Trip Generation Formula: $L_n(T) = 0.95 * L_n(X) - 0.51$

Total Trip Ends in the AM Peak Hour: 3

Distribution Percentages of Entering and Exiting Trips, From ITE Trip Generation Manual, 10th Edition

Entering Trip Percentage: 23%

Exiting Trip Percentage: 77%

Entering Primary Trips: 1

Exiting Primary Trips: 2

PM Peak Trip Generation and Trip Distribution (Peak Hour of Adjacent Street)

Fitted Curve Trip Generation Formula: $L_n(T) = 0.89 * L_n(X) - 0.02$

Total Trip Ends in the PM Peak Hour: 5

Distribution Percentages of Entering and Exiting Trips, From ITE Trip Generation Manual, 10th Edition

Entering Trip Percentage: 63%

Exiting Trip Percentage: 37%

Entering Primary Trips: 3

Exiting Primary Trips: 2

- 1 project overview
- 2 building heights
- 3 building setback
- 4 lot coverage
- 5 permitted uses
- 6 parking diagram
- 7 truck turning diagrams
- 8 streetscape plan
- 9 landscape plan

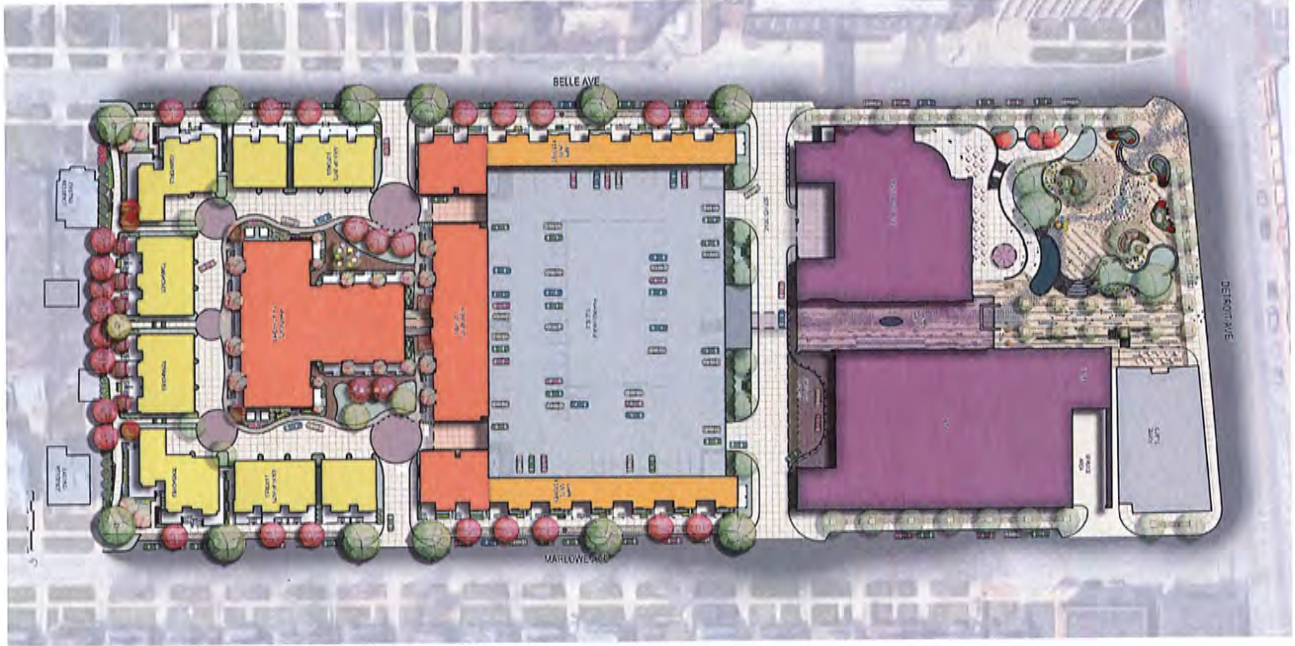
PLANNING COMMISSION AGENDA

April 4, 2019

- 1 site plan
- 2 rendered perspectives

PROJECT OVERVIEW

site plan one lakewood place



rendered perspective aerial looking north

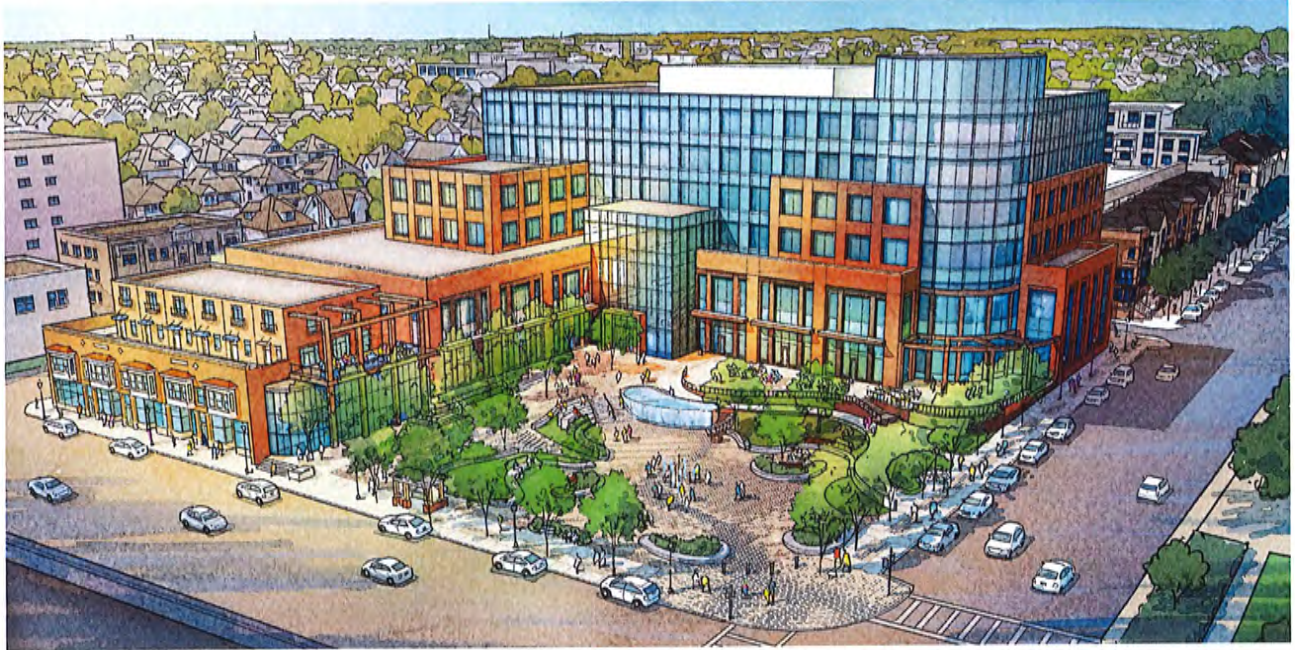


rendered perspective aerial looking south

berhke
ARCHITECTS

CARNEGIE
ARCHITECTS

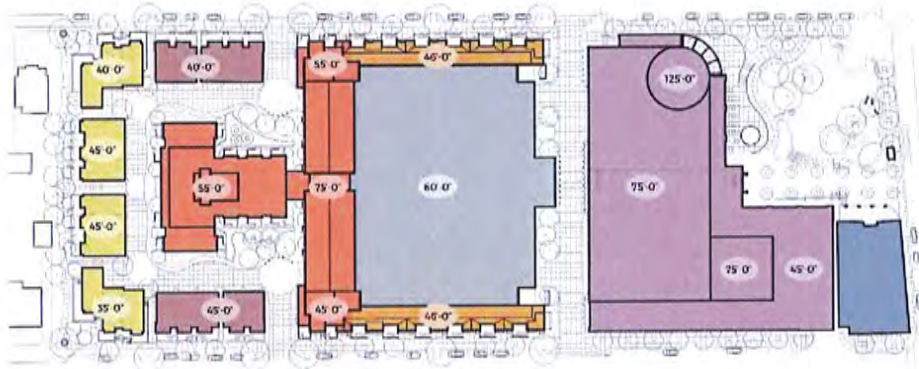
RDL
ARCHITECTS



- 1 overall building height plan
- 2 commercial building height
- 3 garage building height
- 4 liner unit building height
- 5 walk-up building height
- 6 street townhome building height
- 7 paseo townhome

BUILDING HEIGHTS

overall plan with maximum building heights



- CURTIS BLOCK
RETAIL
- MIXED-USE COMMERCIAL
RETAIL + COMMERCIAL OFFICE
- GARAGE
PARKING
- BROWNSTONE LINERS
APARTMENT LIVING
- APARTMENT BUILDING
APARTMENT LIVING
- WALK-UPS
APARTMENT LIVING
- TOWNHOUSES
SINGLE FAMILY LIVING

BUILDING HEIGHT means the vertical distance measured from the lowest point from adjacent R.O.W. proposed finished grade at the front of the building as determined by the Commissioner to the highest point of the roof for flat roofs, to the deck line of mansard roofs, and the mean height between the bottom of the eaves and the top of the ridge for gable, hip and gambrel roofs, exclusive of the building's mechanical systems, chimneys, antennas, or structures necessary to access the roof including but not limited to elevated walkways, stair enclosures and ladders.

Building heights shown on this plan are the highest potential heights per building.

commercial building height



BUILDING HEIGHT means the vertical distance measured from the lowest point from adjacent R.O.W. proposed finished grade at the front of the building as determined by the Commissioner to the highest point of the roof for flat roofs, to the deck line of mansard roofs, and the mean height between the bottom of the eaves and the top of the ridge for gable, hip and gambrel roofs, exclusive of the building's mechanical systems, chimneys, antennas, or structures necessary to access the roof including but not limited to elevated walkways, stair enclosures and ladders.

garage building height



BUILDING HEIGHT means the vertical distance measured from the average elevation of the proposed finished grade at the front of the building as determined by the Commissioner to the highest point of the roof for flat roofs, to the deck line of mansard roofs, and the mean height between the bottom of the eaves and the top of the ridge for gable, hip and gambrel roofs, exclusive of the building's mechanical systems, chimneys, antennas, or structures necessary to access the roof including but not limited to elevated walkways, stair enclosures and ladders.

apartment building height



BUILDING HEIGHT means the vertical distance measured from the lowest point from adjacent R.O.W. proposed finished grade at the front of the building as determined by the Commissioner to the highest point of the roof for flat roofs, to the deck line of mansard roofs, and the mean height between the bottom of the eaves and the top of the ridge for gable, hip and gambrel roofs, exclusive of the building's mechanical systems, chimneys, antennas, or structures necessary to access the roof including but not limited to elevated walkways, stair enclosures and ladders.

brownstone liner unit building height



BUILDING HEIGHT means the vertical distance measured from the lowest point from adjacent R.O.W. proposed finished grade at the front of the building as determined by the Commissioner to the highest point of the roof for flat roofs, to the deck line of mansard roofs, and the mean height between the bottom of the eaves and the top of the ridge for gable, hip and gambrel roofs, exclusive of the building's mechanical systems, chimneys, antennas, or structures necessary to access the roof including but not limited to elevated walkways, stair enclosures and ladders.

walk-up building height



BUILDING HEIGHT means the vertical distance measured from the lowest point from adjacent R.O.W. proposed finished grade at the front of the building as determined by the Commissioner to the highest point of the roof for flat roofs, to the deck line of mansard roofs, and the mean height between the bottom of the eaves and the top of the ridge for gable, hip and gambrel roofs, exclusive of the building's mechanical systems, chimneys, antennas, or structures necessary to access the roof including but not limited to elevated walkways, stair enclosures and ladders.

walk-up building height



BUILDING HEIGHT means the vertical distance measured from the lowest point from adjacent R.O.W. proposed finished grade at the front of the building as determined by the Commissioner to the highest point of the roof for flat roofs, to the deck line of mansard roofs, and the mean height between the bottom of the eaves and the top of the ridge for gable, hip and gambrel roofs, exclusive of the building's mechanical systems, chimneys, antennas, or structures necessary to access the roof including but not limited to elevated walkways, stair enclosures and ladders.

street townhome building height



BUILDING HEIGHT means the vertical distance measured from the lowest point from adjacent R.O.W. proposed finished grade at the front of the building as determined by the Commissioner to the highest point of the roof for flat roofs, to the deck line of mansard roofs, and the mean height between the bottom of the eaves and the top of the ridge for gable, hip and gambrel roofs, exclusive of the building's mechanical systems, chimneys, antennas, or structures necessary to access the roof including but not limited to elevated walkways, stair enclosures and ladders.

street townhome building height



BUILDING HEIGHT means the vertical distance measured from the lowest point from adjacent R.O.W. proposed finished grade at the front of the building as determined by the Commissioner to the highest point of the roof for flat roofs, to the deck line of mansard roofs, and the mean height between the bottom of the eaves and the top of the ridge for gable, hip and gambrel roofs, exclusive of the building's mechanical systems, chimneys, antennas, or structures necessary to access the roof including but not limited to elevated walkways, stair enclosures and ladders.

paseo townhome building height



BUILDING HEIGHT means the vertical distance measured from the lowest point from adjacent R.O.W. proposed finished grade at the front of the building as determined by the Commissioner to the highest point of the roof for flat roofs, to the deck line of mansard roofs, and the mean height between the bottom of the eaves and the top of the ridge for gable, hip and gambrel roofs, exclusive of the building's mechanical systems, chimneys, antennas, or structures necessary to access the roof including but not limited to elevated walkways, stair enclosures and ladders.

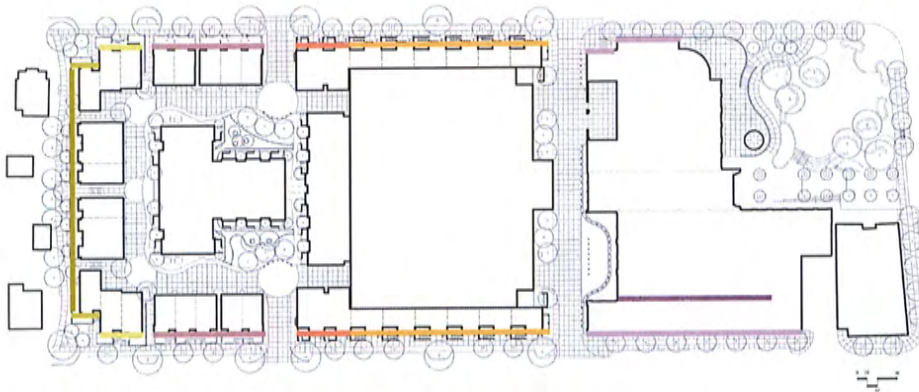
BUILDING SETBACKS

plan with setbacks

behnke
LANDSCAPE ARCHITECTURE

CARNEGIE

RDL
ARCHITECTS



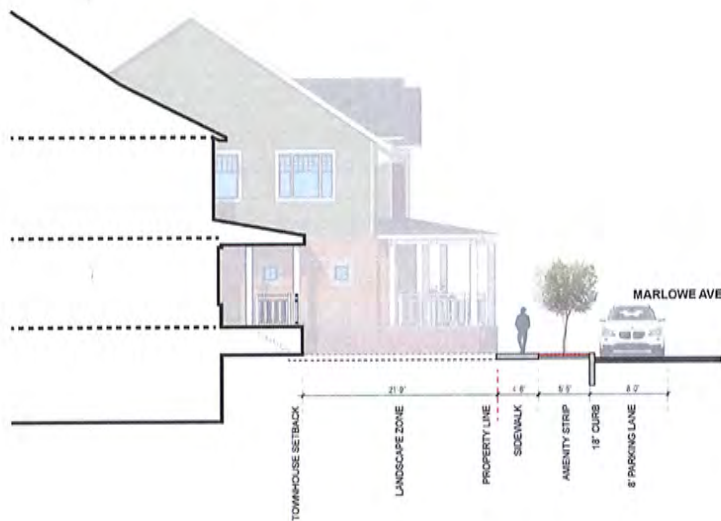
- MIXED-USE COMMERCIAL
RETAIL + COMMERCIAL OFFICE
● 30' - 36'
● 33'0" - 35'0"
- BROWNSTONE LINERS
APARTMENT LIVING
9' - 30'
- APARTMENT BUILDING
APARTMENT LIVING
20' - 34'
- WALK-UPS
APARTMENT LIVING
10' - 14'
- TOWNHOUSES
SINGLE FAMILY LIVING
● 4' - 2'-6"
● 22'
● 30'0" from property line

BUILDING SETBACK the unoccupied area between the public or private right-of-way and the building line.

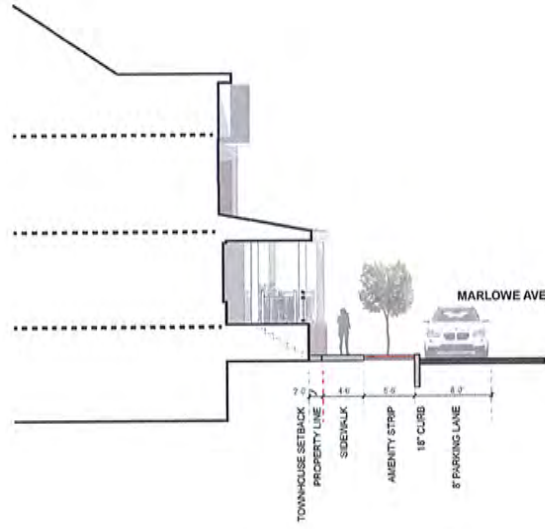
section walk-ups with setbacks



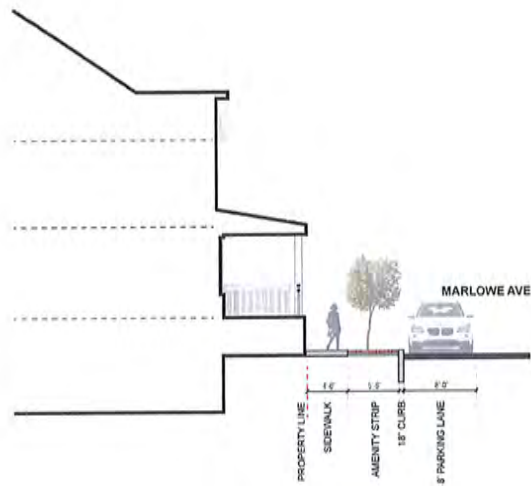
section townhouses with setbacks



section townhouses with setbacks

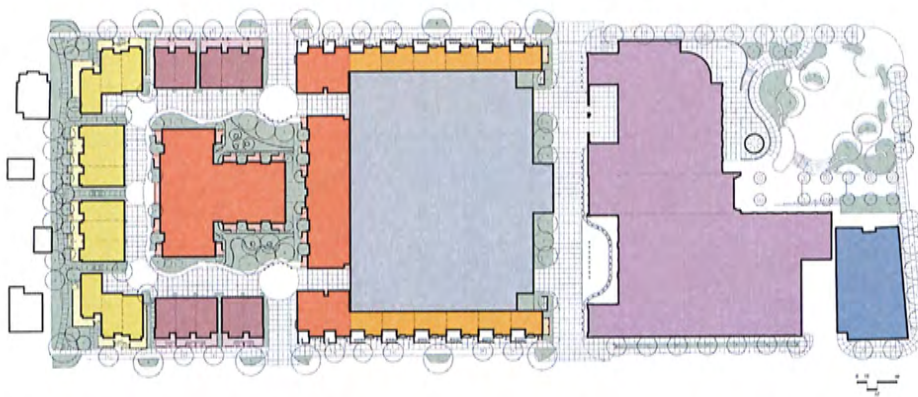


section townhouses with setbacks



LOT COVERAGE

site plan lot coverage

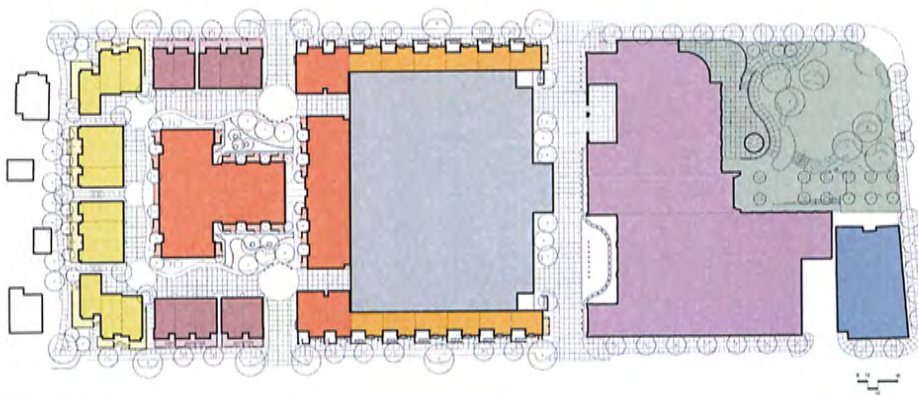


- 2.8% CURTIS BLOCK
RETAIL
- 17.6% MIXED-USE COMMERCIAL
RETAIL + COMMERCIAL OFFICE
- 17.2% GARAGE
PARKING
- 3.2% BROWNSTONE LINERS
APARTMENT LIVING
- 9.6% APARTMENT BUILDING
APARTMENT LIVING
- 4.0% WALK-UPS
APARTMENT LIVING
- 5.5% TOWNHOUSES
SINGLE FAMILY LIVING
- 60.0% TOTAL
- 20.0% GREENSPACE
OUTDOOR AMENITY SPACE

LOT COVERAGE means that percent of the lot area occupied by a structure, including any part thereof, which extends beyond the foundation; roof overhangs of twelve (12) inches or less, including any rain gutter, shall be excluded from this calculation

PERMITTED USES

site plan permitted uses



- | | |
|------------------------|--|
| COMMERCIAL USE GROUPS | ● CURTIS BLOCK
RETAIL |
| | ● MIXED-USE COMMERCIAL
RETAIL + COMMERCIAL OFFICE |
| | ● GARAGE
PARKING |
| RESIDENTIAL USE GROUPS | ● BROWNSTONE LINERS
MULTIFAMILY LIVING |
| | ● APARTMENT BUILDING
MULTIFAMILY LIVING |
| | ● WALK-UPS
MULTIFAMILY LIVING |
| | ● TOWNHOUSES
SINGLE FAMILY LIVING |
| | ● PRIVATELY OWNED PUBLIC SPACE |

USE GROUPS

- RESIDENTIAL USE GROUPS**
- Rental Apartments / Townhomes
 - For-Sale Townhomes

- COMMERCIAL USE GROUPS**
- Mercantile
 - Business
 - Office
 - Restaurants
 - Hotel
 - Indoor Commercial Recreation/Fitness Center
 - Banquet Center
 - Entertainment

PRIVATELY OWNED PUBLIC SPACE
A first-class, multi-functional community gathering space available for public use. This space consists of 0.5 acres of privately owned public space with a maximum of 20% for outdoor dining.

- 1 site plan featuring parking
- garage parking
- parking standards

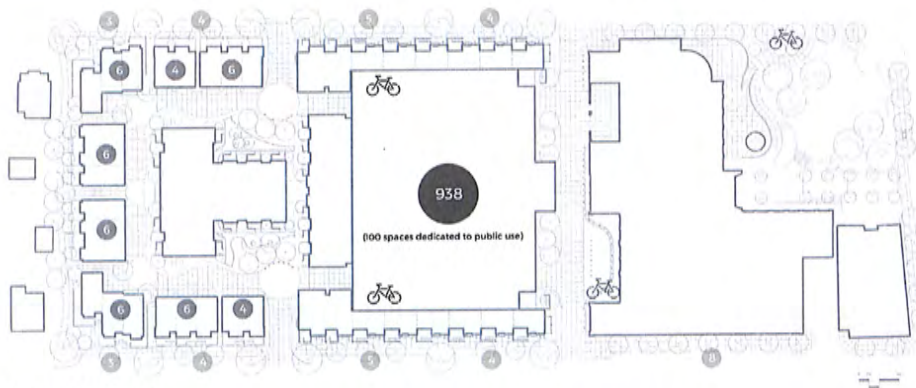
PARKING DIAGRAM

garage parking

behnke
LANDSCAPE ARCHITECTS

CARNEGIE
ARCHITECTS

RDL
ARCHITECTS



40 ON STREET PARKING
8'0" X 20'0"

44 PRIVATE GARAGE

938 PUBLIC GARAGE
LEVEL: 137
LOWER LEVEL S.O.C.: 127
FIRST LEVEL: 133
SECOND LEVEL: 136
THIRD LEVEL: 135
FOURTH LEVEL: 135
FIFTH LEVEL: 116
SIXTH LEVEL: 920
TOTAL SPACES:

9'-0" x 18'-0" = 594 SPACES

8'-6" x 18'-0" = 326 SPACES
(55% OF GARAGE PARKING SPACES)

-18 HANDICAPPED SPACES

PARKING STANDARDS

TOWNHOMES

Min. 1/dwelling unit; no max. 1 required space shall be in a garage. The front yard shall not be used for off-street parking except in the Lagoon District.
12 Townhomes = 12 Spaces. Enclosed

MULTI-FAMILY

Min. of 1/dwelling unit; max. of 2/dwelling unit. The front yard shall not be used for off-street parking except in the Lagoon District.
123 Apartments = 123 Spaces
36 Liner Units = 36 Spaces
20 Walk-up Units = 20 Spaces

RETAIL

Min. 1 for each 1,000 sq. ft. GFA; max. 2.5 for each 1,000 sq. ft. GFA
87,217 sf = 87 spaces

OFFICE

Min. 2 for each 1,000 sq. ft. GFA; max. 3.5 for each 1,000 sq. ft. GFA
127,956 sf = 256 spaces
534 spaces total Minimum

GARAGE BICYCLE PARKING FOR RESIDENTS AND ON SITE EMPLOYEES.

PUBLIC BICYCLE PARKING

- 1-4 fire truck diagrams
- 5-8 garbage truck diagrams
- 9 service truck diagram

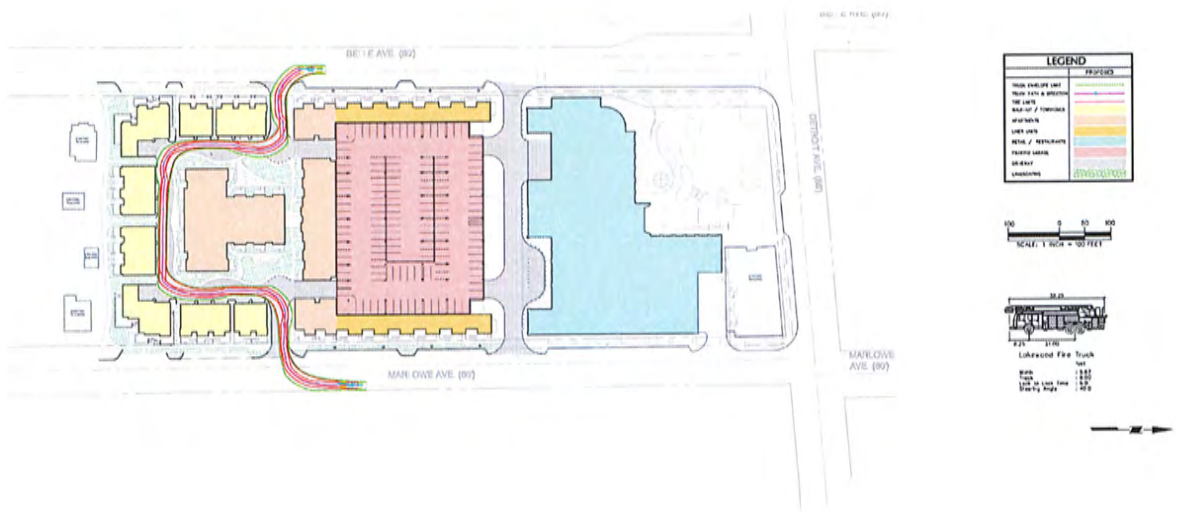
TRUCK TURNING DIAGRAMS

fire truck turning diagram

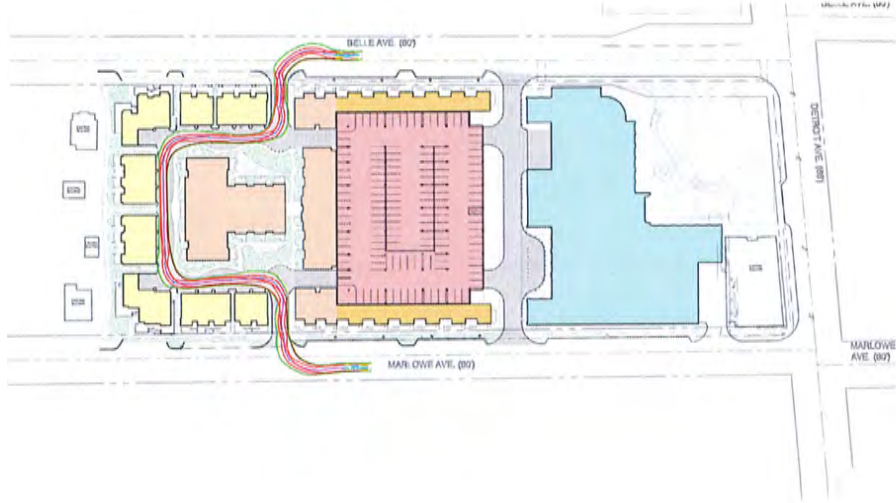
behnke
LANDSCAPE ARCHITECTS

CARNEGIE
ARCHITECTS

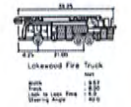
RDL
ARCHITECTS



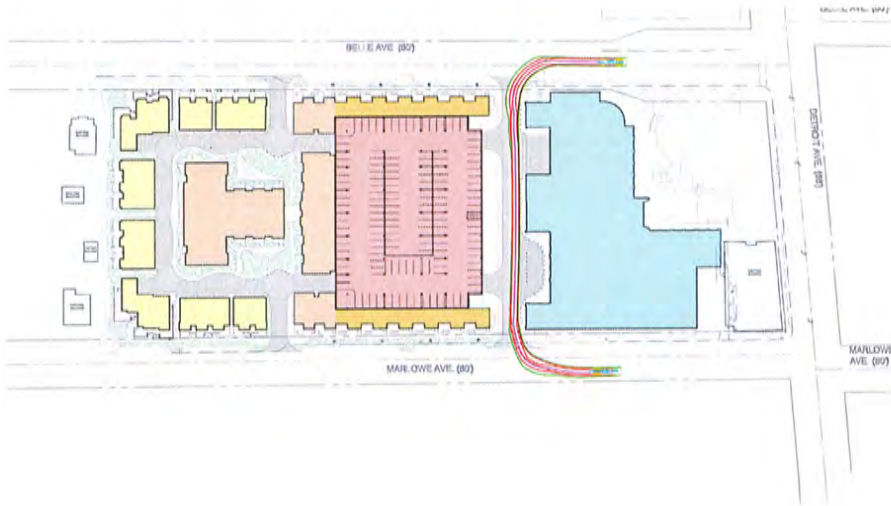
fire truck turning diagram



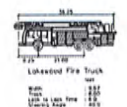
	PROPOSED
TRUCK TURNING PATH	(Red line)
TRUCK TURNING AREA	(Orange shaded area)
TRUCK LANE	(Yellow shaded area)
EXISTING/PROPOSED DRIVEWAY	(Light blue shaded area)
EXISTING DRIVE	(Pink shaded area)
EXISTING/PROPOSED DRIVEWAY	(Light blue shaded area)
EXISTING DRIVEWAY	(Pink shaded area)
EXISTING DRIVE	(Pink shaded area)
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EXISTING DRIVE	(Pink shaded area)



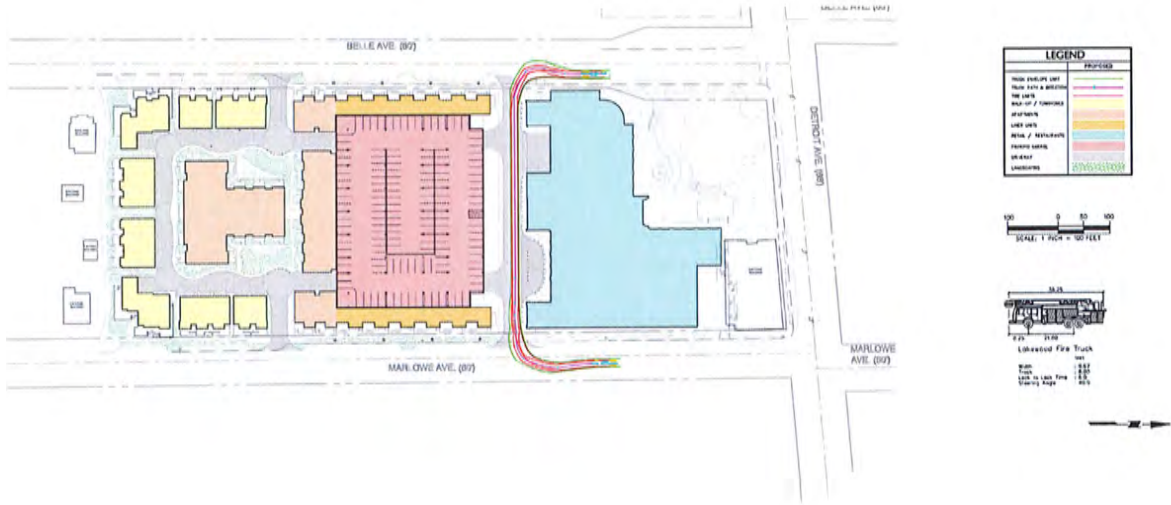
fire truck turning diagram



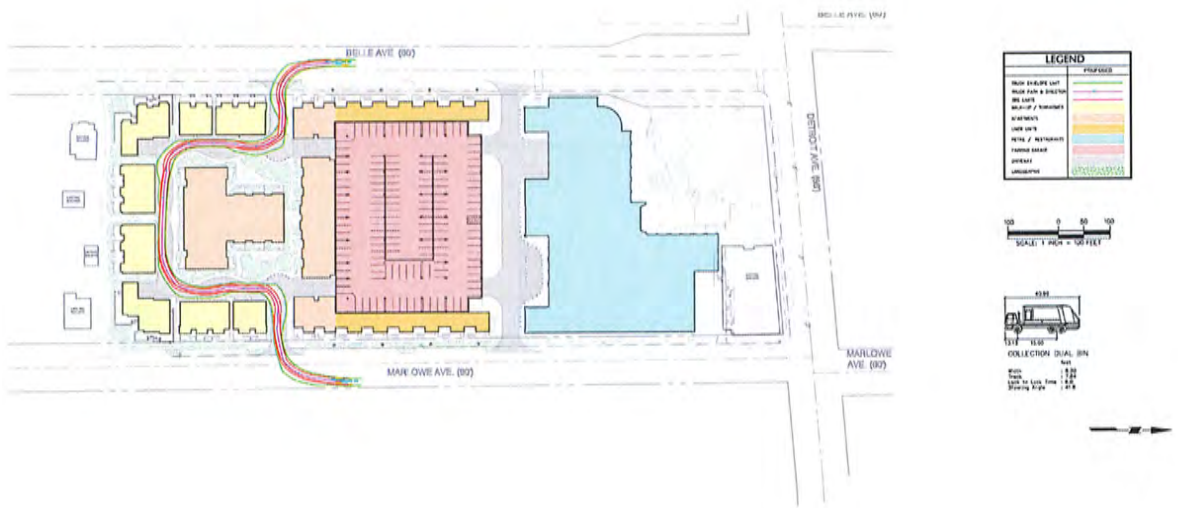
	PROPOSED
TRUCK TURNING PATH	(Red line)
TRUCK TURNING AREA	(Orange shaded area)
TRUCK LANE	(Yellow shaded area)
EXISTING/PROPOSED DRIVEWAY	(Light blue shaded area)
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EXISTING DRIVEWAY	(Pink shaded area)
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EXISTING DRIVEWAY	(Pink shaded area)
EXISTING DRIVE	(Pink shaded area)



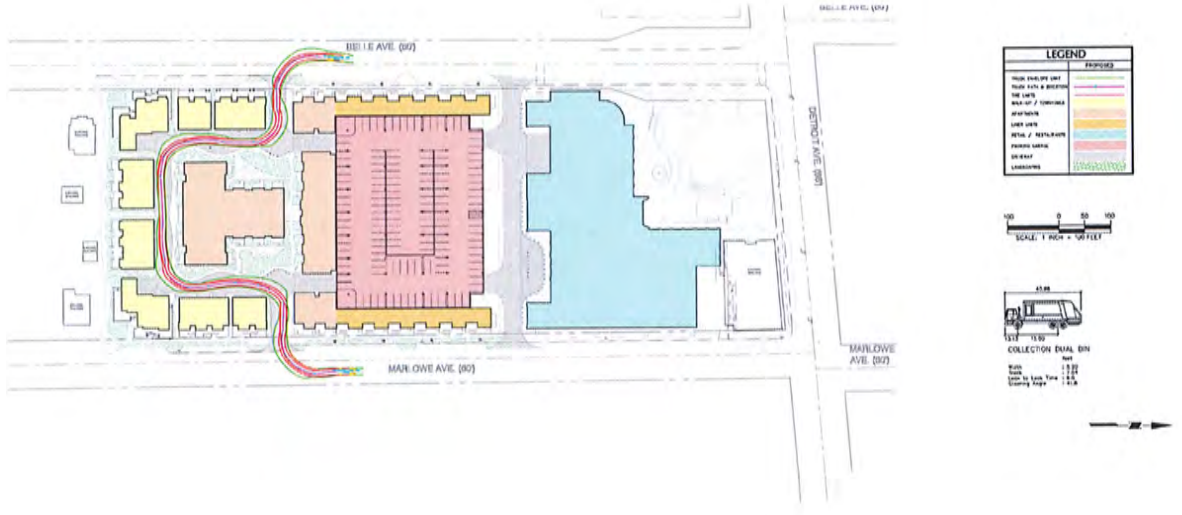
fire truck turning diagram



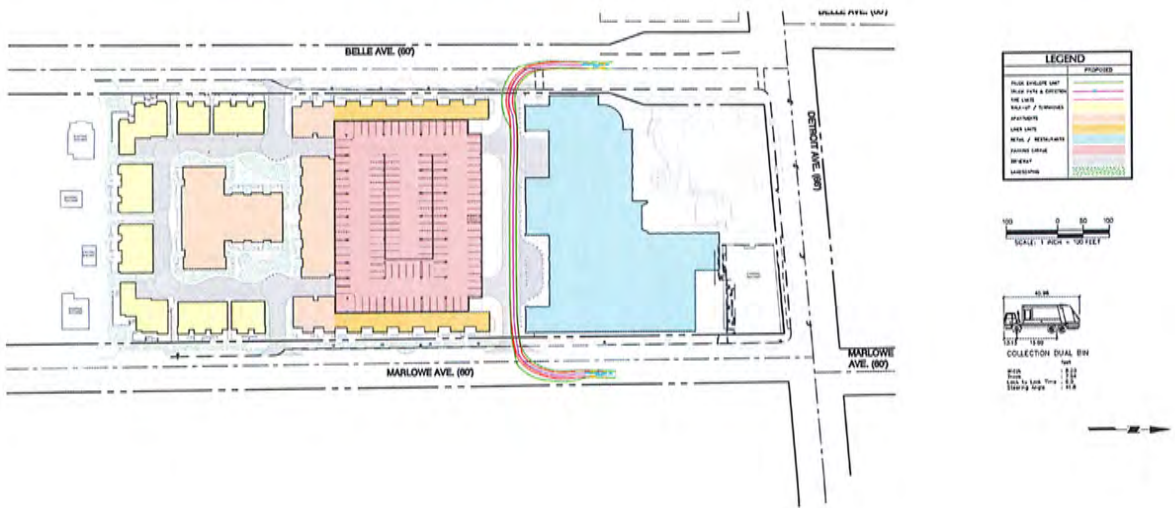
garbage truck turning diagram



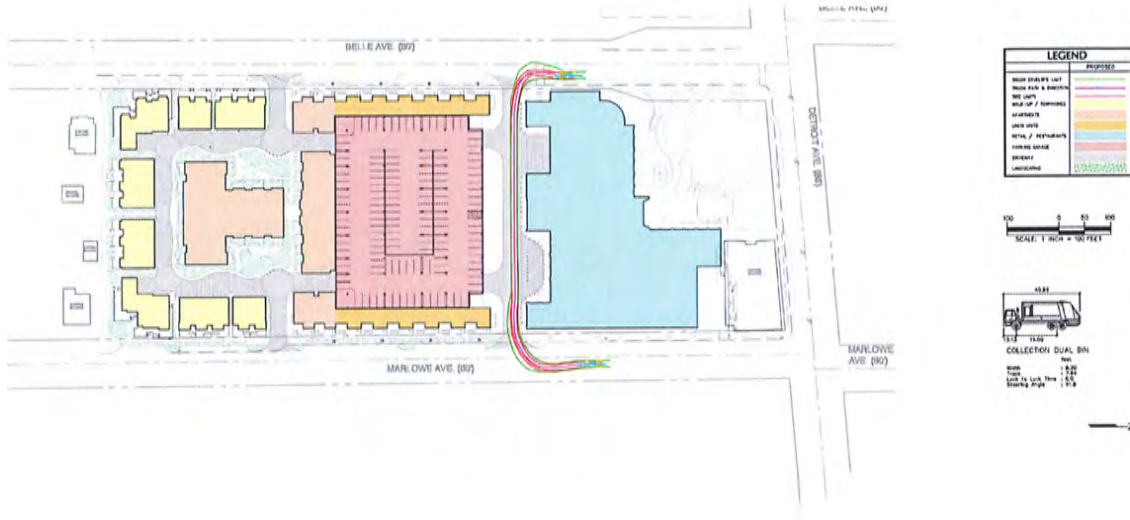
garbage truck turning diagram



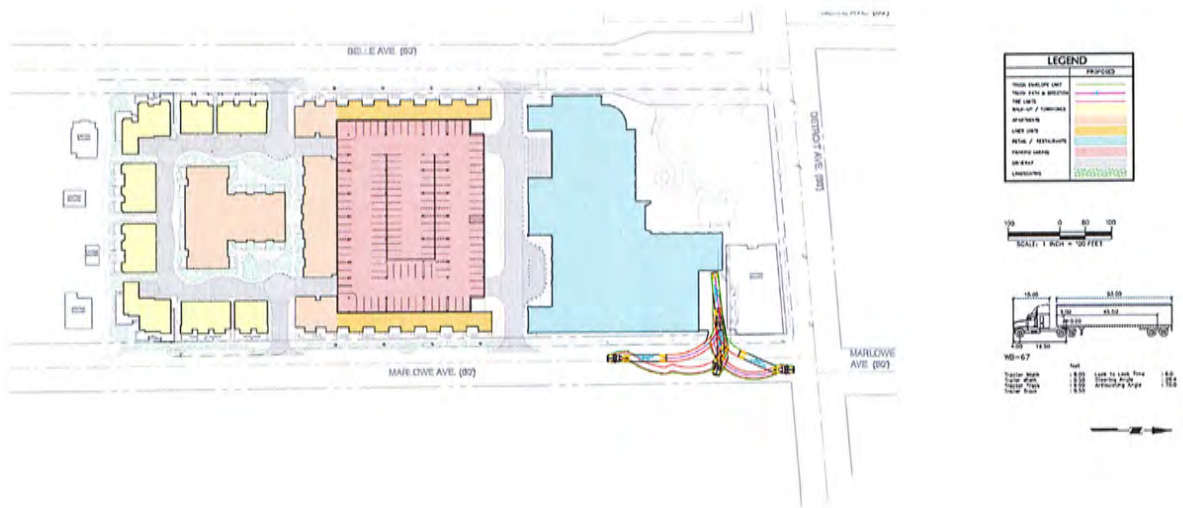
garbage truck turning diagram



garbage truck turning diagram



service truck turning diagram



- 1 fire truck diagrams
- garbage truck diagrams
- service truck diagram

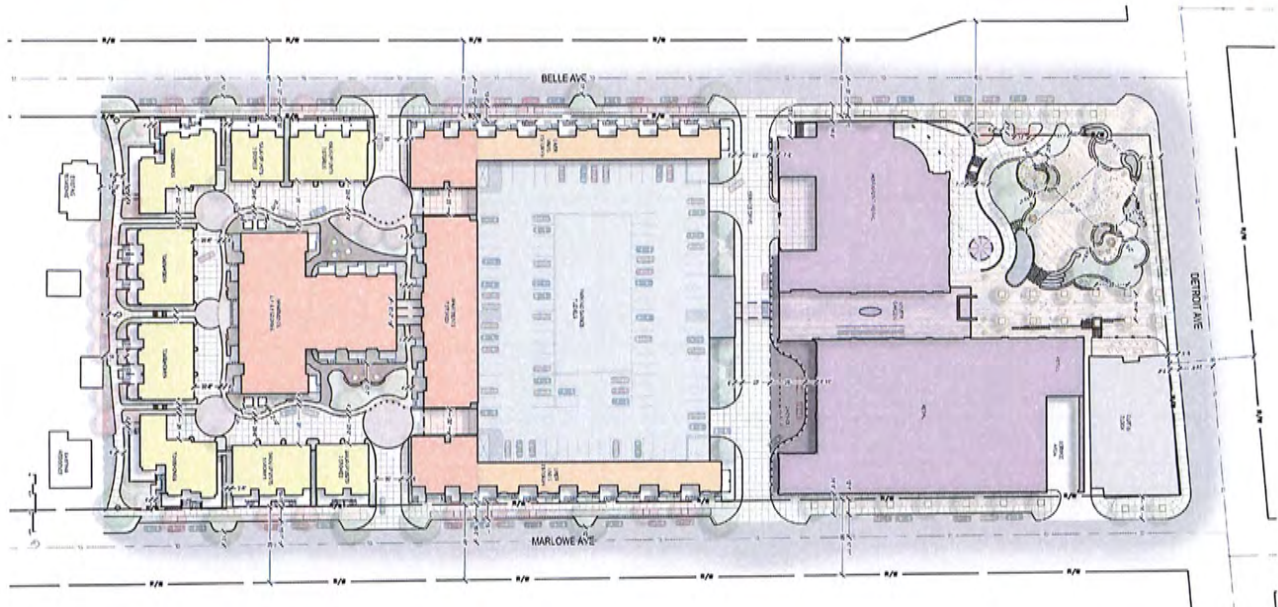
STREETSCAPE PLANS

streetscape plan with dimensions

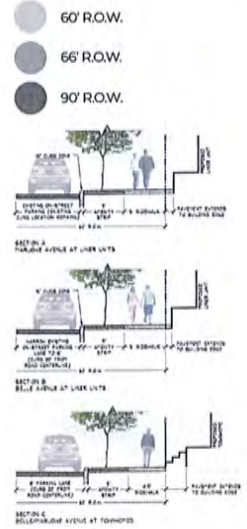
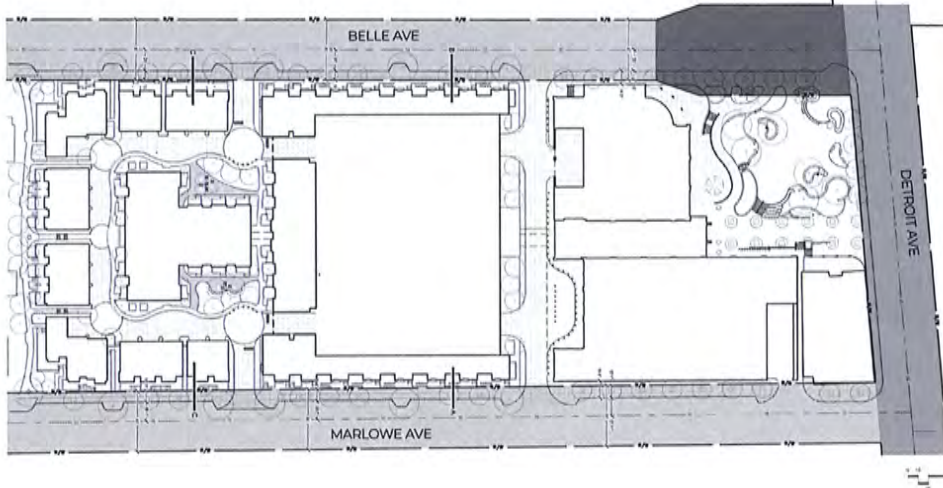
behnke
LANDSCAPE ARCHITECTURE

CARNEGIE

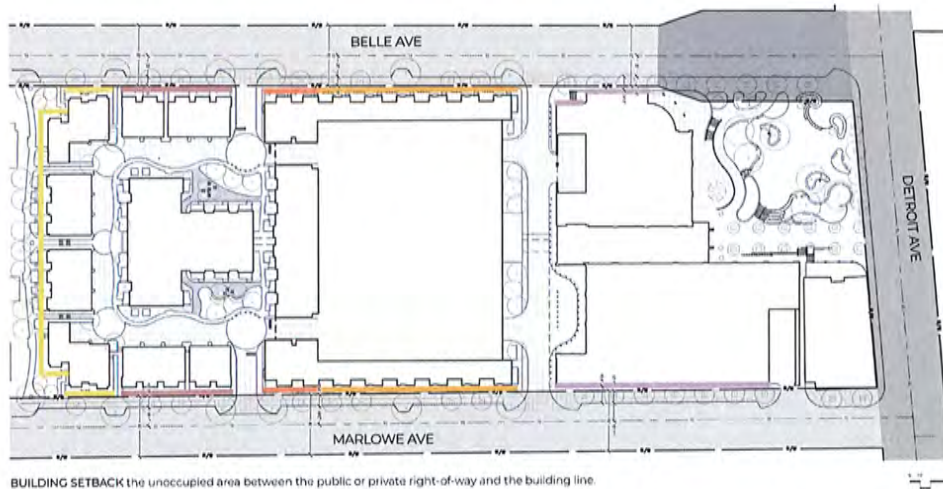
RDL
ARCHITECTS



streetscape plan with typical street sections



streetscape plan with setbacks



BUILDING SETBACK the unoccupied area between the public or private right-of-way and the building line.

- 1 project overview
- 2 building heights
- 3 building setback
- 4 lot coverage
- 5 permitted uses
- 6 parking diagram
- 7 truck turning diagrams

PLANNING COMMISSION AGENDA RECAP

April 4, 2019

APPENDICES

Appendix A – ODOT TIMS Lakewood Road Classification
Appendix B – Turning Movement Counts
Appendix C – Field Inventory Sketches / Signal Timings / Intersection Photo Log
Appendix D – Historical Growth Trends for Detroit Avenue Level of Service Definitions
Appendix E – Weighted Average Calculations
Appendix F – 2019 Existing Capacity Analysis
Appendix G – 2023 No Build Capacity Analysis
Appendix H – 2023 Build Capacity Analysis
Appendix I – Signal Warrant and 4-Way Stop Warrant Analyses
Appendix J – Response to Comment Letter
Appendix K –

APPENDIX – A

ODOT TIMS Lakewood Road Classification

Roadway Functional Classification 2015

City - Lakewood

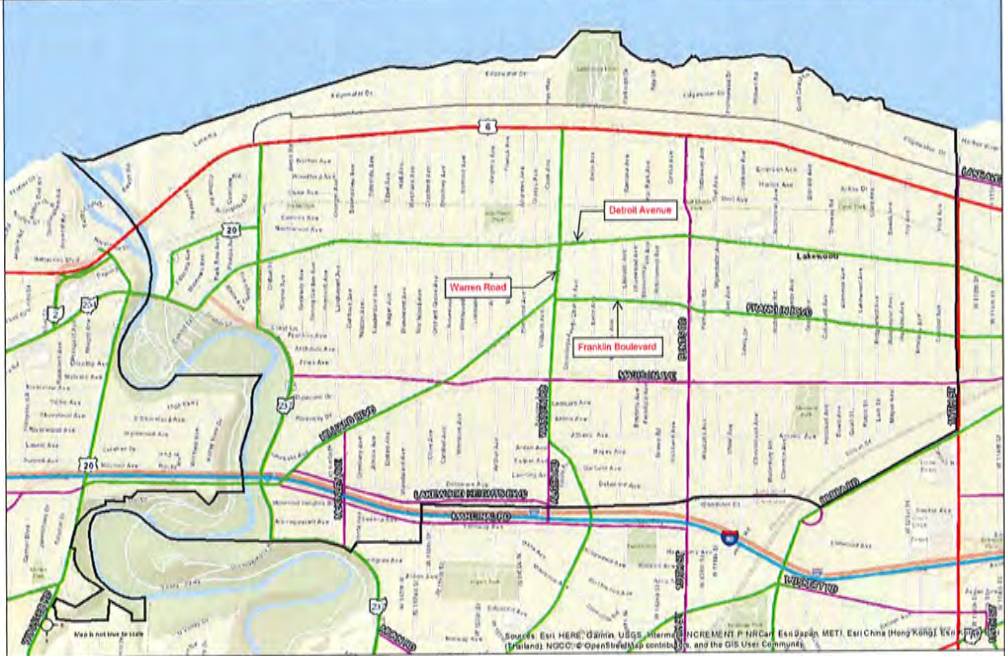
Legend

Functional Class

- 1 - Interstate
- 3 - Principal Arterial
- 4 - Minor Arterial
- 5 - Major Collector
- 7 - Local

This map depicts the Roadway Functional Classifications as of January 1, 2015. Functional Classification is the grouping of roads, streets, and highways in a hierarchy based on the type of highway service they provide. Functional Classifications as defined by the Federal Highway Administration (FHWA) are as follows:

- (01) Interstates
- (02) Other Freeways or Expressways
- (03) Other Principal Arterial Roads
- (04) Minor Arterial Roads
- (05) Major Collector Roads
- (06) Minor Collector Roads
- (07) Local Roads



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www.TSTData.com
184 Baker Rd
Warren, PA 15090

Coatsville, Pennsylvania, United States 18320
Start Date: 02/21/2019
Page No: 1

Lakewood, OH
Dutton Ave & Warren Rd
Thursday, February 21, 2019
Location: 41485144,
81,199518

Turning Movement Data

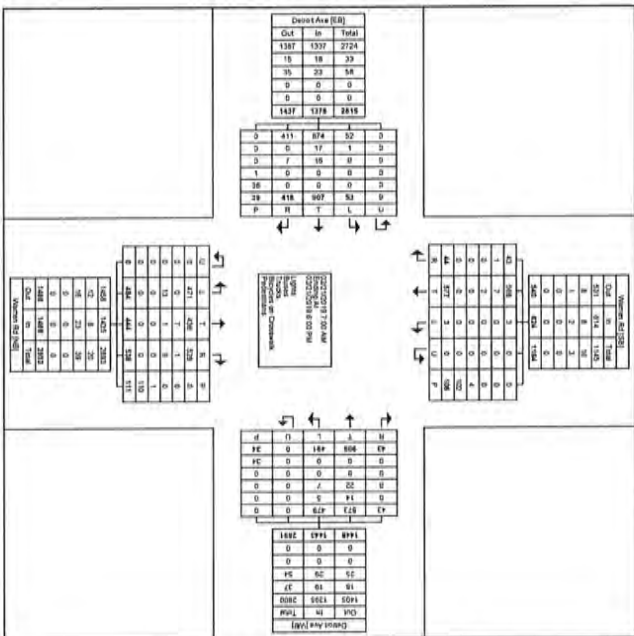
Start Time	Eastbound			Westbound			Northbound			Southbound		
	Lk	Thru	Rgt	Lk	Thru	Rgt	Lk	Thru	Rgt	Lk	Thru	Rgt
7:00 AM	0	20	11	0	0	0	0	0	0	0	0	0
7:15 AM	2	49	21	0	0	0	1	72	13	10	1	1
7:30 AM	0	58	24	0	0	0	1	92	26	42	0	0
7:45 AM	2	79	16	0	0	0	2	87	26	42	3	0
8:00 AM	4	216	62	0	0	0	4	202	100	125	5	2
8:15 AM	2	46	24	0	0	0	2	69	13	28	3	0
8:30 AM	2	42	23	0	0	0	4	67	28	32	1	0
8:45 AM	5	51	21	0	0	0	1	73	31	51	2	0
9:00 AM	6	177	50	0	0	0	14	213	100	127	8	0
9:15 AM	4	50	24	0	0	0	3	61	12	24	3	0
9:30 AM	5	60	23	0	0	0	3	71	25	30	3	0
9:45 AM	4	67	22	0	0	0	2	114	42	84	3	0
10:00 AM	6	87	22	0	0	0	3	107	23	59	3	0
10:15 AM	5	74	24	0	0	0	2	116	28	88	4	0
10:30 AM	19	283	125	6	0	0	9	433	146	219	14	2
Grand Total	53	907	408	10	0	0	29	1018	491	608	26	8
Percentages	3.8	62.8	29.8	0.7	0.0	0.0	2.1	65.6	2.4	6.8	0.2	0.6
Total %	1.1	18.5	8.3	0.2	0.0	0.0	28.1	10.0	18.5	0.7	0.2	0.0
Left %	52	67.4	40.1	40	0	0	100	47.8	67.9	25	8	0
% Right	66.1	96.4	96.3	100.0	0	0	67.0	97.8	96.0	100.0	0	0
% Thru	1	17	0	0	0	0	1	5	14	0	0	0
% Stop	0	16	7	0	0	0	0	23	7	22	0	0
% Trucks	0.0	1.8	1.1	0.0	0.0	0.0	0.0	1.7	1.4	2.4	0.0	0.0
Delay	0	0	0	0	0	0	0	0	0	0	0	0
Overturns	0	0	0	0	0	0	0	0	0	0	0	0
% Bergins	0	0	0	0	0	0	0	0	0	0	0	0
% Bergins	0	0	0	0	0	0	0	0	0	0	0	0
Overturns	0	0	0	0	0	0	0	0	0	0	0	0
Reductans	0	0	0	0	0	0	0	0	0	0	0	0
%	0	0	0	0	0	0	0	0	0	0	0	0
Reductans	0	0	0	0	0	0	0	0	0	0	0	0



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Lakewood, OH
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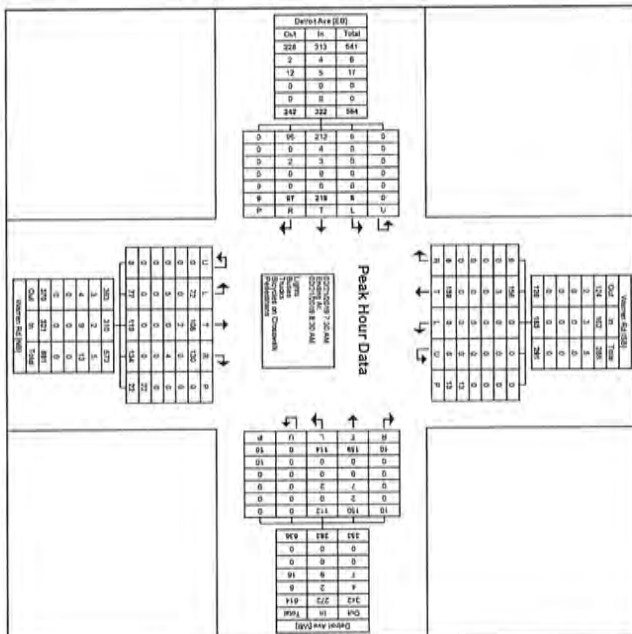


Turning Movement Data Plot

Turning Movement Peak Hour Data (7:30 AM)

Start Time	Detroit Ave				Observation				Warren Rd			
	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total
7:30 AM	0	52	54	106	0	0	0	0	0	0	0	0
7:45 AM	0	78	74	152	0	0	0	0	0	0	0	0
8:00 AM	0	46	51	97	0	0	0	0	0	0	0	0
Total	0	176	179	355	0	0	0	0	0	0	0	0
Approach	19	96.0	300.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total %	0.5	26.1	83.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Left %	0	4	0	0	0	0	0	0	0	0	0	0
Thru %	0	28	29	0	0	0	0	0	0	0	0	0
Right %	0	74	70	0	0	0	0	0	0	0	0	0
% Trucks	0.0	1.4	2.1	-	0.0	0.0	0.0	-	0.0	0.0	0.0	-
% Bicycles	-	-	-	-	-	-	-	-	-	-	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-

Turning Movement Peak Hour Data Plot (7:30 AM)



Lakewood, OH
 Dayton Ave & Warren Rd
 Thursday, February 21, 2019
 Location: 41,485144,-
 81,795915



Crestlessville, Pennsylvania, United States 19320
 610-465-1469
 Serving Transportation Professionals Since 1995

Court Name: Dehot
 Avenue: Warren Rd
 Site Code:
 Start Date: 02/21/2019
 Page No: 5

Lakewood, OH
 Dayton Ave & Warren Rd
 Thursday, February 21, 2019
 Location: 41,485144,-
 81,795915

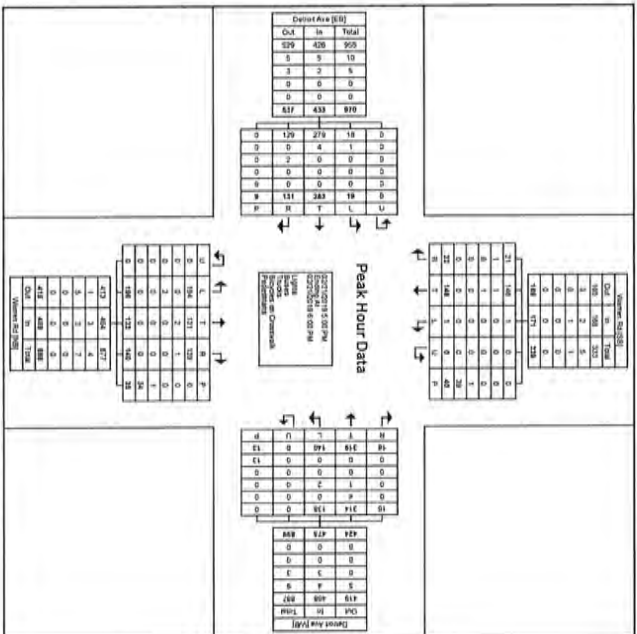


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Court Name: Dehot
 Avenue: Warren Rd
 Site Code:
 Start Date: 02/21/2019
 Page No: 6

Turning Movement Peak Hour Data (5:00 PM)

Start Time	Eastbound			Westbound			Northbound			Southbound		
	Lft	Thru	Rgt	Lft	Thru	Rgt	Lft	Thru	Rgt	Lft	Thru	Rgt
5:00 PM	3	82	29	2	0	4	96	49	78	4	1	0
5:15 PM	4	78	31	0	0	2	114	40	84	3	0	0
5:30 PM	6	67	32	2	0	3	107	20	59	3	1	0
5:45 PM	8	74	34	2	0	0	116	28	68	4	0	0
Total	19	253	128	6	0	9	433	146	319	14	2	0
Avg/Sec	4.4	65.4	32.5	1.4	0.0	0.0	25.2	67.2	24	0.4	0.0	0.0
Total %	12	18.3	8.1	0.4	0.0	0.0	28.0	50	20.8	0.5	0.1	0.0
Pdf	0.79	6886	6319	6319	6319	6319	6319	6319	6319	6319	6319	6319
Uturns	12	319	133	6	0	0	426	136	314	14	2	0
% Uturns	61.7	86.6	89.4	0.0	0.0	0.0	96.4	86.6	86.4	98.6	0.0	0.0
% Booth	1	4	0	0	0	0	0	4	0	0	0	0
% Trucks	0	0	2	0	0	0	2	1	0	0	0	0
% Trucks of Trucks	0.0	0.0	1.6	0.0	0.0	0.0	1.4	0.3	0.0	0.0	0.0	0.0
% Stop	0	0	0	0	0	0	0	0	0	0	0	0
% Booth or Stop	0	0	0	0	0	0	0	0	0	0	0	0
Procedure	9	0	0	0	0	0	0	0	0	0	0	0
% Procedure	0	0	0	0	0	0	0	0	0	0	0	0



Turning Movement Peak Hour Data Plot (5:00 PM)

Lakewood, OH
154 Baker Rd
Cohasset, Pennsylvania, United States 15320
Location: 41485144,
81,799515

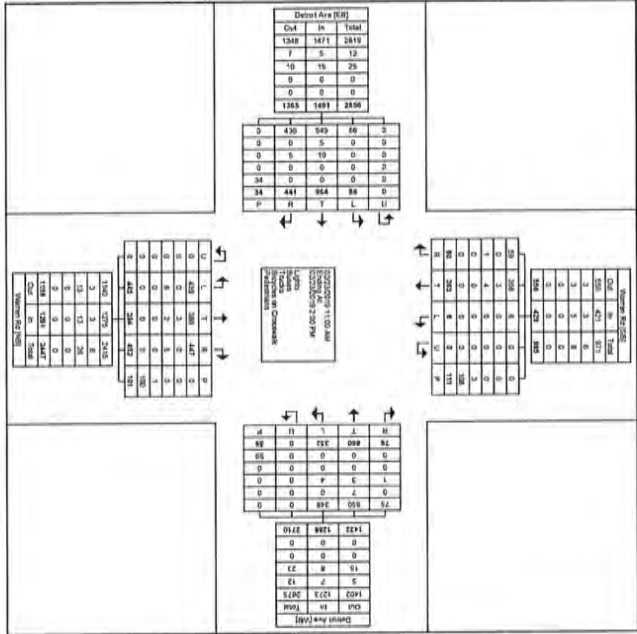
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Court Name: Darby Ave/Warren Rd (S&I)
Site Code:
Start Date: 02/23/2019
Page No: 1

Turning Movement Data

Start	Eastbound					Westbound					Northbound					Southbound														
	Ln	Thru	Rgt	Left	U-Turn	Ln	Thru	Rgt	Left	U-Turn	Ln	Thru	Rgt	Left	U-Turn	Ln	Thru	Rgt	Left	U-Turn										
11:50 AM	6	52	34	0	0	0	124	50	62	4	0	3	95	41	39	4	0	4	117	0	35	6	0	0	8	41	377			
11:55 AM	7	63	56	1	0	3	129	22	88	4	1	0	5	95	28	31	44	2	0	8	195	0	25	7	1	0	8	23	289	
11:59 AM	9	72	59	2	0	6	122	29	71	1	0	0	1	111	41	29	34	6	0	8	109	0	22	5	1	0	5	28	300	
12:00 PM	4	40	42	0	0	0	129	31	81	4	0	0	1	116	27	27	21	3	0	3	98	1	26	2	0	0	7	29	302	
12:05 PM	8	85	32	1	0	2	128	27	79	4	1	0	12	111	39	29	36	3	0	10	102	1	29	7	0	0	29	151	398	
12:10 PM	9	89	41	1	0	3	142	24	86	6	0	0	7	102	44	27	25	2	0	10	125	0	21	6	1	0	7	28	219	
12:15 PM	7	82	21	1	0	2	122	23	73	6	0	0	6	81	42	31	41	3	0	8	133	1	21	3	0	0	3	32	159	
12:20 PM	6	58	35	1	0	1	121	23	72	6	0	0	6	82	43	29	41	3	0	6	132	1	21	3	0	0	6	31	156	
12:25 PM	5	26	32	1	0	0	124	29	82	6	0	0	3	113	49	38	19	12	0	3	94	3	27	17	1	0	6	38	142	332
12:30 PM	30	234	141	4	0	0	147	69	102	29	6	0	6	121	109	138	19	17	0	13	463	2	132	17	1	0	6	10	28	591
1:00 PM	3	21	33	0	0	2	124	34	77	6	0	0	3	111	39	34	39	5	0	10	108	1	27	6	0	0	6	38	142	332
1:05 PM	5	49	32	2	0	6	128	30	69	6	0	0	6	104	39	34	24	2	0	11	86	1	28	7	0	0	6	37	381	
1:10 PM	11	69	32	2	0	6	128	30	69	6	0	0	6	104	39	34	24	2	0	11	87	0	23	4	0	0	6	37	381	
1:15 PM	5	49	32	2	0	6	128	30	69	6	0	0	6	104	39	34	24	2	0	11	87	0	23	4	0	0	6	37	381	
1:20 PM	28	322	135	6	0	10	481	137	200	24	1	0	17	423	123	121	13	0	42	399	3	113	20	0	0	0	47	128	1418	
Grand Total	86	594	428	13	0	34	1491	382	600	72	4	0	59	1204	445	304	414	38	0	191	1201	6	283	57	3	0	111	429	489	

Turning Movement Data Plot



Lakewood, OH
Detroit Ave & Warren Rd
Cohasset, Pennsylvania, United States 15320
Location: 41485144,
81,799515

WWW.TSDATA.COM
154 Baker Rd
Cohasset, Pennsylvania, United States 15320
610-465-1469
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Court Name: Darby Ave/Warren Rd (S&I)
Site Code:
Start Date: 02/23/2019
Page No: 2

Lakewood, OH
 Court Name: Detroit
 Avon/Warren Rd (Satl)
 Site Code: 02232019
 Start Date: 02/23/2019
 Page No: 3

Lakewood, OH
 Court Name: Detroit
 Avon/Warren Rd (Satl)
 Site Code: 02232019
 Start Date: 02/23/2019
 Page No: 3

Lakewood, OH
 Court Name: Detroit
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 Page No: 3

Lakewood, OH
 Court Name: Detroit
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 Start Date: 02/23/2019
 Page No: 3

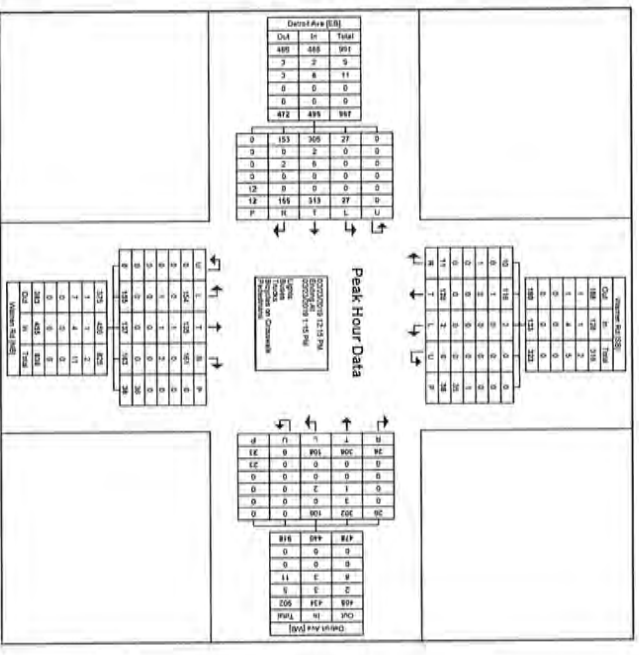
Lakewood, OH
 Court Name: Detroit
 Avon/Warren Rd (Satl)
 Site Code: 02232019
 Start Date: 02/23/2019
 Page No: 3



Turning Movement Peak Hour Data (12:15 PM)

Sheet Time	Detroit Ave					Warren Rd																							
	Est	Obs	U/L	Pa	App	Est	Obs	U/L	Pa	App																			
12:15 PM	9	69	41	1	0	3	140	24	72	8	0	0	7	102	44	37	28	1	0	10	108	0	21	6	1	0	7	28	133
12:30 PM	7	62	28	1	0	2	122	28	68	8	0	0	7	102	78	51	47	3	0	11	108	1	31	9	0	0	8	38	186
12:45 PM	8	68	28	1	0	0	111	47	38	47	1	0	5	132	0	41	1	0	0	10	108	1	27	0	0	0	10	208	201
1:00 PM	27	313	151	4	0	12	495	108	395	26	0	0	23	463	165	137	151	12	8	28	485	2	120	10	1	0	28	133	103
Appreciation	525	632	305	628	0.0	-	245	845	59	6.0	0.0	-	341	801	232	28	6.0	-	-	14	802	7.8	0.8	0.0	-	-	-	-	-
Total %	1.8	20.8	9.8	6.3	0.0	-	22.5	7.1	20.1	1.7	0.0	0.0	-	28.8	10.3	8.8	8.9	0.8	0.0	-	29.8	0.1	7.9	0.7	0.1	0.0	-	-	-
PFH	679	819	418	1300	0.00	-	2384	6581	4240	872	8100	0.00	-	8320	3281	2112	2478	4280	8100	-	3280	6200	2712	2478	4280	8100	-	8782	10481
Lights	271	305	149	4	0	-	445	1508	302	26	0	0	-	434	154	158	105	11	0	-	480	2	116	10	0	-	-	-	138
% Lights	0	97.4	98.7	100.0	-	-	98.0	98.3	98.3	100.0	-	-	98.4	98.4	98.5	99.3	91.7	-	-	98.9	60.0	96.7	100.0	0.0	-	-	-	-	98.2
% Blows	0	2	0	0	0	-	0	3	0	0	0	-	3	0	1	0	0	-	-	1	0	0	0	0	-	-	-	-	1
% Trucks	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	-	-	-	-	0
% Trucks	0.0	0.6	2.0	0.0	-	-	1.8	1.8	0.3	0.0	-	-	0.7	2.6	0.7	0.7	8.3	-	-	0.8	0.0	2.5	0.0	0.0	-	-	-	-	2.8
Biocycle Conversion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Biocycle Conversion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrian	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Turning Movement Peak Hour Data Plot (12:15 PM)





www.TSTData.com
184 Baker Rd

Coatesville, Pennsylvania, United States 19320
Start Date: 02/21/2019
Page No: 2

Lakewood, OH
St. Charles Ave
Thursday, February 21, 2019
Location: 41.485206, -
81.759288

Count Name: Detroit Awnst
Counting Area
Site Code:
Start Date: 02/21/2019
Page No: 1

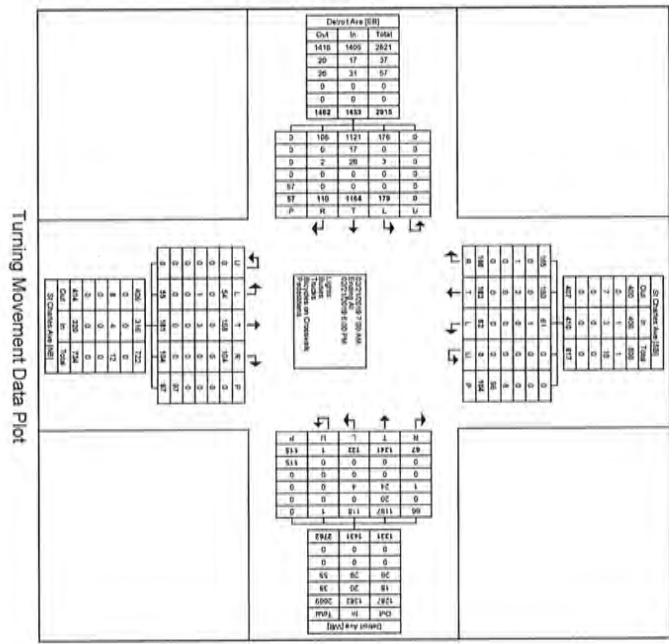
Lakewood, OH
St. Charles Ave & Detroit Ave
Thursday, February 21, 2019
Location: 41.485206, -
81.759288

Coatesville, Pennsylvania, United States 19320
Start Date: 02/21/2019
Page No: 1

Count Name: Detroit Awnst
Counting Area
Site Code:
Start Date: 02/21/2019
Page No: 2

Turning Movement Data

Time	Detroit Ave				Westbound				St Charles Ave				Southbound				
	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	
7:00 AM	6	38	1	0	4	46	2	26	3	0	0	0	1	4	0	1	13
7:15 AM	17	65	3	0	0	85	7	29	3	0	0	11	28	0	11	4	2
7:30 AM	14	67	6	0	2	87	6	28	4	0	0	7	69	9	18	5	6
7:45 AM	15	90	9	0	0	114	8	71	0	1	0	13	80	3	13	4	8
8:00 AM	21	200	19	1	0	8	202	20	194	0	1	0	34	229	10	49	14
8:15 AM	15	53	7	0	0	6	72	7	50	1	4	0	14	69	3	13	4
8:30 AM	6	60	6	1	0	6	75	7	24	3	0	3	64	14	3	2	0
8:45 AM	15	68	6	0	0	4	89	4	80	2	0	0	80	3	7	2	0
9:00 AM	59	231	21	3	0	17	214	29	259	9	4	0	33	283	10	44	11
9:15 AM	8	70	8	1	0	6	64	14	63	2	1	0	4	111	8	9	1
9:30 AM	8	70	8	1	0	1	95	8	87	4	0	0	4	104	4	10	3
9:45 PM	5	84	7	0	0	2	96	3	90	1	0	0	10	84	5	5	3
10:00 PM	9	80	5	2	0	0	88	8	101	2	1	0	7	112	1	5	1
10:15 PM	7	87	8	1	0	5	111	11	114	2	0	0	6	127	3	14	4
10:30 PM	29	205	26	5	0	10	204	24	219	9	2	0	15	421	18	28	8
10:45 PM	7	87	8	1	0	5	111	11	114	2	0	0	6	127	3	14	4
11:00 PM	11	86	11	2	0	5	110	7	102	11	1	0	6	122	3	6	2
11:15 PM	13	75	4	1	0	5	97	10	80	7	0	0	8	97	9	5	3
11:30 PM	8	86	9	2	0	4	105	9	107	9	2	0	1	127	4	10	1
11:45 PM	29	348	30	5	0	21	423	37	463	29	3	1	23	479	17	29	11
Grand Total	179	1164	95	15	0	57	1403	122	1241	57	10	1	119	1401	55	161	46
Appointments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total %	5.0	32.2	2.8	0.4	0.0	40.2	34.2	3.4	0.3	0.0	0.0	0.0	3.8	1.7	0.2	1.4	1.8
Left%	17%	11%	9%	1%	0%	14%	11%	10%	57%	1%	0%	0%	3%	1%	0%	0%	0%
Thru%	60%	63%	66%	66%	66%	66%	67%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
Right%	23%	26%	25%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
U-Turn%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
% Trucks	3%	2%	1%	0%	0%	2%	1%	0%	1%	0%	0%	0%	1%	0%	0%	0%	0%
% Bicycles	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
% Pedestrians	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
% Other	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%



Turning Movement Data Plot

Lakewood, OH
 St Charles Ave
 Thursday, February 21, 2019
 Location: 41485206,
 81,75828



www.TSTData.com
 184 Baker Rd

Cosatesville, Pennsylvania, United States 19320
 Site Code: 610-661-469
 Serving Transportation Professionals Since 1995

Court Name: Detroit Ave/5
 Charles Ave
 Site Code:
 Start Date: 02/21/2019
 Page No: 3

Lakewood, OH
 Detroit Ave & St Charles Ave
 Thursday, February 21, 2019
 Location: 41485206,
 81,75828



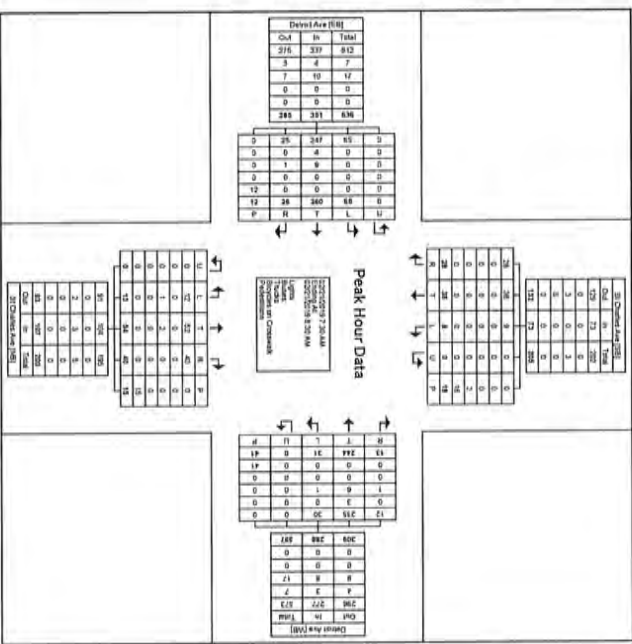
www.TSTData.com
 184 Baker Rd

Cosatesville, Pennsylvania, United States 19320
 Site Code: 610-661-469
 Serving Transportation Professionals Since 1995

Court Name: Detroit Ave/5
 Charles Ave
 Site Code: 02/21/2019
 Page No: 4

Turning Movement Peak Hour Data (7:30 AM)

Start Time	Detroit Ave				Westwood				St Charles Ave				St Charles Ave																
	Lak	Thu	Reg	Peak	Lak	Thu	Reg	Peak	Lak	Thu	Reg	Peak	Lak	Thu	Reg	Peak													
7:00 AM	14	27	6	0	0	2	87	6	99	4	0	0	1	69	6	16	5	6	0	4	26	2	9	6	0	5	23	216	
7:15 AM	15	30	6	0	0	3	114	6	71	0	1	0	13	60	3	13	4	6	0	2	28	2	1	1	2	0	8	248	
7:30 AM	21	50	7	0	0	3	78	10	58	3	0	0	16	69	3	12	4	6	0	3	18	2	1	4	0	1	16	448	
7:45 AM	15	33	2	0	0	4	72	10	52	1	4	0	14	69	3	12	4	6	0	3	18	2	1	4	0	1	16	417	
8:00 AM	69	250	24	2	0	12	357	31	244	8	5	0	41	208	13	54	15	26	0	15	107	9	36	14	13	0	18	72	818
8:15 AM	168	741	68	0	0	103	647	28	17	0	0	0	121	505	148	204	0	0	0	0	0	0	0	0	0	0	0	0	0
Total %	0.77	6.72	0.69	0.00	0.00	0.70	6.72	0.69	6.72	0.00	0.00	0.00	0.70	6.72	0.69	6.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uplift	85	247	24	1	0	337	30	235	8	4	0	0	277	12	52	18	26	0	0	0	104	9	36	14	13	0	17	72	
% Lights	0	95.0	100.0	0.0	0.0	96.0	96.3	100.0	80.0	0.0	0.0	0.0	96.3	96.3	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Blows	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Trucks	0.0	2.5	0.0	0.0	0.0	2.8	3.2	2.9	0.0	0.0	0.0	0.0	2.8	3.2	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

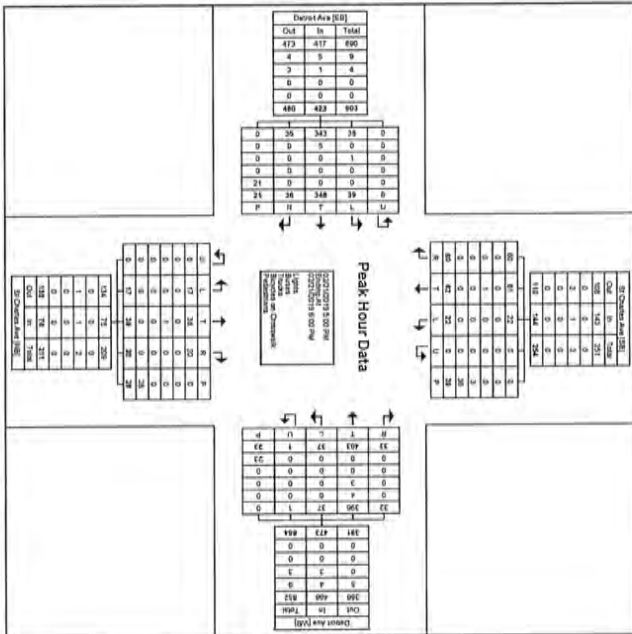


Turning Movement Peak Hour Data Plot (7:30 AM)

Turning Movement Peak Hour Data (5:00 PM)

Start Time	Detroit Ave				Westwood				St Charles Ave				St Charles Ave				
	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	
5:00 PM	7	87	8	102	5	115	11	131	2	0	0	2	4	2	0	6	23
5:15 PM	11	88	11	110	5	119	11	135	1	0	0	1	4	2	0	6	23
5:30 PM	13	89	4	106	5	120	11	136	1	0	0	1	4	2	0	6	23
5:45 PM	8	86	2	96	5	122	11	138	1	0	0	1	4	2	0	6	23
5:59 PM	5	84	3	92	5	125	11	141	1	0	0	1	4	2	0	6	23
Peak Hour	32	423	37	492	29	3	1	33	473	17	38	12	6	28	38	21	144
Total %	32	82.3	7.1	14.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PFV	0.29	0.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Left	38	343	30	411	37	398	29	464	17	38	12	6	28	38	21	144	197
Thru	0	5	0	5	0	4	0	4	0	0	0	0	0	0	0	0	0
Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0.0	1.4	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bi-Modal Conversion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bi-Modal Conversion	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Peak Hour Conversion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peak Hour Conversion	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Peak Hour Conversion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peak Hour Conversion	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Peak Hour Conversion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peak Hour Conversion	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Turning Movement Peak Hour Data Plot (5:00 PM)



Turning Movement Data

Start Time	Detroit Ave				Westwood				Sycamore Ave				St Charles Ave			
	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total
11:00 AM	3	105	8	116	0	0	0	0	0	0	0	0	0	0	0	0
11:05 AM	9	109	6	124	0	0	0	0	0	0	0	0	0	0	0	0
11:10 AM	4	94	5	103	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	6	100	6	112	0	0	0	0	0	0	0	0	0	0	0	0
11:20 AM	4	94	5	103	0	0	0	0	0	0	0	0	0	0	0	0
11:25 AM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
11:35 AM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
11:40 AM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
11:50 AM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
11:55 AM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
12:05 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
12:10 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
12:20 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
12:25 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
12:35 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
12:40 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
12:50 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
12:55 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
1:05 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
1:10 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
1:20 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
1:25 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
1:35 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
1:40 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
1:50 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
1:55 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
2:05 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
2:10 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
2:20 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
2:25 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
2:35 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
2:40 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
2:50 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
2:55 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
3:05 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
3:10 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
3:20 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
3:25 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
3:35 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
3:40 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
3:50 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
3:55 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
4:05 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
4:10 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
4:20 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
4:25 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
4:35 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
4:40 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
4:50 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
4:55 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
5:05 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
5:10 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
5:20 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
5:25 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
5:35 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
5:40 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
5:50 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
5:55 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
6:05 PM	5	95	6	106	0	0	0	0	0	0	0	0	0	0	0	0
6:10 PM	5	95	6													



www.TSData.com
184 Baker Rd

Lakewood, OH
St Charles Ave
Saturday, February 23, 2019
Location: 47485206,
81,79828

Catsville, Pennsylvania, United States 19320
Site Code: 670-665-1469
Serving Transportation Professionals Since 1995

Court Name: Detroit Ave/S
Charles Ave (S&L)
Site Code: 02232019
Start Date: 02/23/2019
Page No: 3

Lakewood, OH
Detroit Ave & St Charles Ave
Saturday, February 23, 2019
Location: 47485206,
81,79828

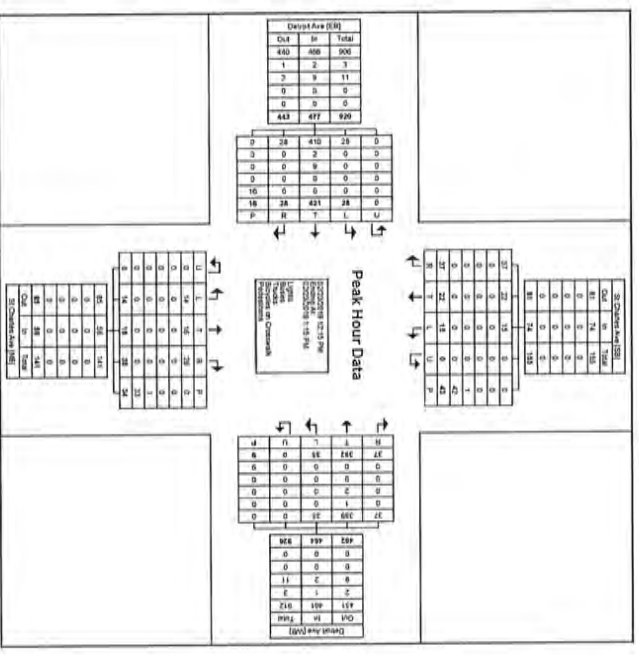
Catsville, Pennsylvania, United States 19320
Site Code: 670-665-1469
Serving Transportation Professionals Since 1995

Court Name: Detroit Ave/S
Charles Ave (S&L)
Site Code: 02232019
Start Date: 02/23/2019
Page No: 4

Turning Movement Peak Hour Data (12:15 PM)

Start Time	Detroit Ave				Westwood				Northwood				St Charles Ave				Total										
	L	T	R	P	L	T	R	P	L	T	R	P	L	T	R	P											
12:15 PM	7	10	5	0	0	0	0	0	14	10	5	0	0	0	0	0	11	4	4	7	1	0	11	16	350		
12:30 PM	10	110	10	0	0	0	0	0	150	5	80	9	0	0	0	0	12	14	5	8	12	4	0	8	26	1560	
12:45 PM	10	101	4	1	0	0	0	0	116	3	59	12	1	0	0	0	17	3	9	4	8	0	11	20	271		
1:00 PM	1	108	8	0	0	0	0	0	117	2	116	2	1	0	0	0	17	3	9	4	8	0	11	20	281		
1:15 PM	28	421	21	1	0	0	0	0	477	35	252	21	5	0	0	0	44	14	18	0	34	56	15	22	15	43	74
Peak Hour	59	663	57	0	0	0	0	0	715	64	63	13	0	0	0	0	59	28	34	21	0	0	0	0	0	150	
Total %	2.2	26.3	2.5	0.1	0.0	0.0	0.0	0.0	44.5	3.3	26.8	3.0	0.5	0.0	0.0	0.0	4.2	1.5	0.7	1.7	0.0	0.0	0.0	0.0	0.0	6.8	
%P	0.26	10.65	0.85	0.00	0.00	0.00	0.00	0.00	26.80	0.82	8.45	1.65	0.00	0.00	0.00	0.00	5.91	0.51	0.51	0.21	0.00	0.00	0.00	0.00	0.00	10.00	
Lights	0	419	27	1	0	0	0	0	468	35	299	21	5	0	0	0	46	14	18	0	56	15	22	15	0	74	
%Lights	0.0	97.4	100.0	100.0	0.0	0.0	0.0	0.0	99.4	99.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
%Blades	0	2	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
%Blades	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%Trucks	0	9	0	0	0	0	0	0	9	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
%Trucks	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Oncoming	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Oncoming	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Pedestrian	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrian	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Turning Movement Peak Hour Data Plot (12:15 PM)





Lakewood, OH
Detroit Ave & Ballie Ave
Thursday, February 21, 2019
Location: 41485275, -
81,1791035

Crestsville, Pennsylvania, United States 19320
Site Code: 610-485-1459
Serving Transportation Professionals Since 1985

Count Name: Detroit Ave/Balle Ave
Site Code: 0221/2019
Start Date: 02/21/2019
Page No: 1

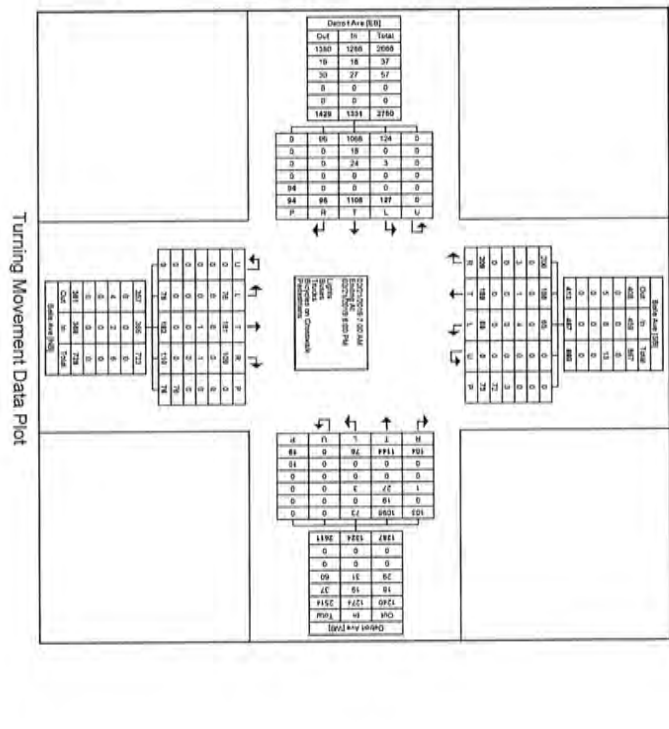
Lakewood, OH
Detroit Ave & Ballie Ave
Thursday, February 21, 2019
Location: 41485275, -
81,1791035

Crestsville, Pennsylvania, United States 19320
Site Code: 610-485-1459
Serving Transportation Professionals Since 1985

Count Name: Detroit Ave/Balle Ave
Site Code: 0221/2019
Start Date: 02/21/2019
Page No: 2

Turning Movement Data

Start	Eastbound				Westbound				Northbound				Southbound																	
	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn														
7:00 AM	6	30	3	0	0	29	6	30	2	0	0	0	2	2	3	0	1	9	4	3	0	0	1	12	98					
7:15 AM	7	62	3	1	0	2	72	0	24	2	0	0	0	26	2	6	2	3	0	2	13	2	5	1	11	0	0	19	331	
7:30 AM	6	60	10	0	0	12	76	4	61	10	2	0	0	77	2	17	2	7	0	2	29	5	13	3	5	0	0	6	28	207
7:45 AM	9	67	6	0	0	7	102	6	86	5	0	0	0	3	7	4	25	5	8	0	2	42	10	14	3	10	0	3	27	258
8:00 AM	29	229	22	1	0	21	290	19	191	19	2	0	3	218	10	50	12	20	0	7	62	21	25	7	21	0	10	84	694	
8:15 AM	9	58	4	0	0	4	71	7	67	4	0	0	0	58	2	15	1	5	0	2	23	1	13	3	0	0	1	32	171	
8:30 AM	7	65	1	0	0	2	72	6	67	2	1	0	2	62	2	8	1	6	0	4	18	2	7	2	0	0	0	6	25	188
8:45 AM	6	58	1	0	0	1	71	6	67	2	0	0	1	71	11	5	0	3	0	3	21	5	4	4	0	0	0	4	18	181
8:55 AM	25	221	24	1	0	23	219	19	233	14	2	0	4	258	17	56	2	21	0	15	81	18	34	17	30	0	15	67	724	
9:00 AM	5	77	2	1	0	3	86	7	80	1	0	0	1	115	5	6	2	0	0	15	2	11	2	7	0	4	21	231		
9:15 AM	7	74	3	0	0	4	84	5	80	3	1	0	1	89	4	9	7	5	0	3	25	5	15	5	0	7	20	228		
9:30 PM	9	80	3	2	0	8	84	6	73	6	2	0	1	87	6	13	5	3	0	6	26	0	14	4	12	0	4	20	232	
9:45 PM	10	83	5	2	0	3	100	0	84	10	0	0	1	94	3	10	3	0	0	19	3	15	3	6	0	7	23	245		
10:00 PM	31	314	13	5	0	18	383	18	298	26	3	0	6	462	20	56	17	13	0	24	65	10	58	14	23	0	22	115	864	
10:15 PM	6	87	4	0	0	15	103	5	104	11	0	0	1	110	13	12	2	6	0	7	33	6	20	8	7	0	7	44	202	
10:30 PM	5	90	6	4	0	5	105	11	90	9	1	0	4	111	8	23	2	5	0	5	26	6	14	6	14	0	10	42	286	
10:45 PM	11	74	2	2	0	2	89	4	78	13	0	0	0	83	3	12	3	0	0	6	21	3	16	15	14	0	5	46	248	
11:00 PM	14	83	3	1	0	10	101	3	102	4	0	0	0	109	5	11	1	1	0	10	19	4	11	5	9	0	5	20	258	
11:15 PM	26	304	15	15	0	20	400	23	372	37	1	0	5	433	29	58	8	15	0	20	150	23	61	24	44	0	29	151	1004	
Grand Total	127	119	74	22	0	64	1311	76	1144	96	8	0	19	1324	76	125	41	60	0	78	398	69	189	72	137	0	75	467	3482	
Apparel	9	5	2	0	0	1	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total %	3.8	21.7	2.1	0.2	0.0	3.8	21.2	3.2	2.8	0.2	0.0	0.0	0.0	37.9	2.3	5.2	1.2	2.0	0.0	10.5	5.2	1.4	2.1	3.9	0.0	0.0	13.4	0.0	0.0	
Lights	124	1096	74	22	0	68	73	109	95	8	0	0	0	124	76	141	41	68	0	206	65	189	72	134	0	0	469	3208		
% Lights	97.2	98.2	100.0	100.0	0	96.6	99.1	100.0	100.0	0	0	0	0	96.2	100.0	99.5	100.0	100.0	0	99.5	94.2	99.5	100.0	97.8	0	0	98.3	97.0	0	0
Buses	0	18	0	0	0	0	18	0	0	0	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0.0	1.6	0.0	0.0	0.0	1.4	0.0	1.7	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trucks	3	24	0	0	0	27	3	27	1	0	0	0	0	31	0	1	0	0	0	2	4	1	5	3	0	0	6	38	26	
% Trucks	2.4	2.1	0.0	0.0	0.0	2.0	0.9	2.4	1.0	0.0	0.0	0.0	0.0	2.3	0.0	0.5	0.0	1.4	0.0	0.5	5.8	0.5	0.0	2.7	0.0	0.0	17.7	11.9	0	0
Percent	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Percent	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Percent	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Percent	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Percent	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Percent	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

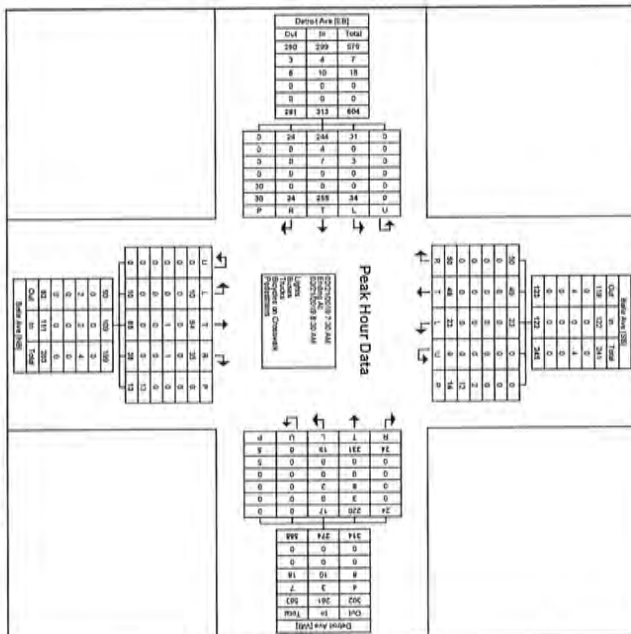


Turning Movement Data Plot

Turning Movement Peak Hour Data (7:30 AM)

Start Time	Detroit Ave					Westbound					Northbound					Southbound													
	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total									
7:30 AM	6	82	10	0	0	12	76	4	61	10	2	0	0	77	2	17	2	7	0	2	26	5	13	3	5	0	6	25	50
7:45 AM	9	87	6	0	0	0	7	102	6	66	5	0	0	77	4	25	5	8	0	2	42	10	14	3	6	0	3	23	25
8:00 AM	9	86	4	0	0	4	71	7	67	4	0	0	0	86	2	15	1	5	0	2	23	1	13	2	0	1	3	17	
8:15 AM	10	82	4	0	0	7	64	2	67	2	1	0	2	62	8	1	0	0	0	6	11	23	49	74	36	0	14	123	100
Total	34	255	24	0	0	20	313	19	231	21	3	0	2	214	10	65	9	27	0	13	111	33	49	74	36	0	14	123	100
Appx %	0.9	61.5	7.2	0.0	0.0	-	6.9	64.3	7.7	61.0	-	0.0	0.6	63.3	0.6	15.5	2.2	6.3	0.0	3.0	26.5	0.8	11.7	17.7	8.6	0.0	3.4	27.0	
Total %	4.1	31.1	2.8	0.0	0.0	-	28.2	23.2	2.6	64.0	0.0	-	3.4	1.2	7.9	1.1	3.3	0.0	-	13.5	2.8	6.0	1.7	4.4	0.0	-	14.9	-	
Left	344	74	0	0	-	295	17	235	21	3	0	-	281	10	64	9	26	0	-	109	23	49	14	36	0	-	121	131	
Thru	167	657	604	0	-	851	815	652	604	604	-	553	503	963	963	-	863	503	503	503	503	-	102	815	815	-	102	815	
Right	0	4	0	0	-	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
U-Turn	0	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Sat	0.0	1.6	0.0	-	-	13.1	0.0	1.3	0.0	0.0	-	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.8	
% Sat	3.7	0	0	-	-	10	2	8	0	0	-	10	0	1	0	-	2	0	0	0	0	0	0	0	0	-	0	2	
% Trucks	8.8	2.7	0.0	-	-	3.2	0.5	3.5	0.0	0.0	-	3.6	0.0	1.5	0.0	3.7	-	1.8	0.0	0.0	0.0	0.0	-	0.0	0.0	-	0.0	2.7	
Regd. Cntr. %	-	-	-	-	-	0	-	-	-	-	0	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	
% Beyond 1/2 Mile	-	-	-	-	-	0.0	-	-	-	-	0.0	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	14.3	-	
Overturn	-	-	-	-	-	30	-	-	-	5	-	-	-	-	13	-	-	-	-	-	0	-	-	-	-	-	0	-	
Precedents	-	-	-	-	-	100	-	-	-	100	-	-	-	-	100	-	-	-	-	-	100	-	-	-	-	-	100	-	

Turning Movement Peak Hour Data Plot (7:30 AM)



Lakewood, OH
 184 Baker Ave
 Thursday, February 21, 2019
 Location: 41,488279,-
 81,791035

Catlettsville, Pennsylvania, United States 18320
 Site Code: 610-465-1469
 Start Date: 02/21/2019
 Serving Transportation Professionals Since 1995

Count Name: Detroit Ave/Belle
 Ave Code:
 Start Date: 02/21/2019
 Page No: 5



Lakewood, OH
 Detroit Ave & Belle Ave
 Thursday, February 21, 2019
 Location: 41,488279,-
 81,791035

Catlettsville, Pennsylvania, United States 18320
 Site Code: 610-465-1469
 Start Date: 02/21/2019
 Serving Transportation Professionals Since 1995

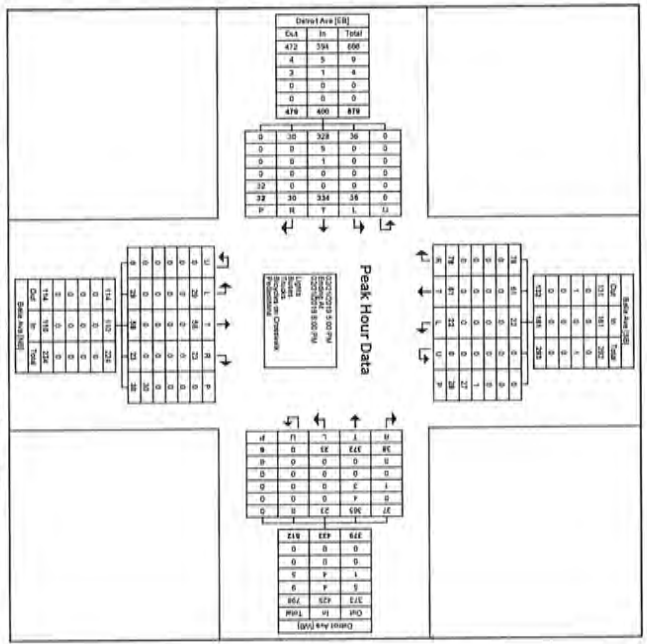
Count Name: Detroit Ave/Belle
 Ave Code:
 Start Date: 02/21/2019
 Page No: 5



Turning Movement Peak Hour Data (5:00 PM)

State	Detroit Ave				Westwood				Northwood				Belle Ave			
	Lft	Thru	Rght	Totl	Lft	Thru	Rght	Totl	Lft	Thru	Rght	Totl	Lft	Thru	Rght	Totl
5:00 PM	6	87	4	97	5	104	11	120	13	17	2	32	6	14	8	26
5:15 PM	5	80	2	87	5	105	11	121	13	17	2	32	6	14	8	26
5:30 PM	11	84	2	97	5	105	11	121	13	17	2	32	6	14	8	26
5:45 PM	16	83	1	100	5	105	11	121	13	17	2	32	6	14	8	26
5:59 PM	20	78	1	99	5	105	11	121	13	17	2	32	6	14	8	26
Peak %	3.3	20.3	1.4	14.0	2.6	21.2	2.1	23.7	3.4	6.1	0.0	29.2	2.6	5.3	0.7	14.0
PHF	0.54	0.28	0.42	0.40	0.40	0.28	0.42	0.40	0.40	0.28	0.42	0.40	0.40	0.28	0.42	0.40
Light	2	228	15	15	0	1584	23	205	36	1	0	405	20	58	8	15
% Light	0	98.2	20.8	10.8	0	98.2	98.6	97.3	100.0	0	0	100.0	100.0	100.0	100.0	100.0
% Blkout	0.0	1.5	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Trucks	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Trucks	0.0	0.3	0.0	0.0	0.0	0.3	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Bicycles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Bicycles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Pedestrian	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Pedestrian	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

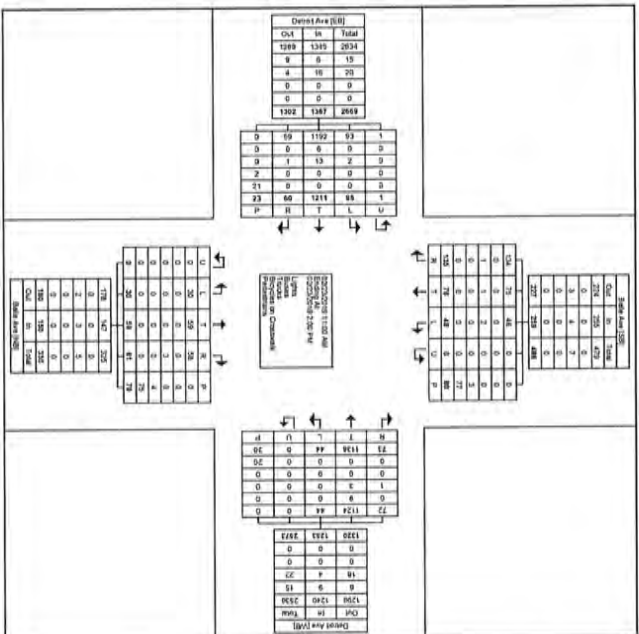
Turning Movement Peak Hour Data Plot (5:00 PM)



Turning Movement Data

Date	Detroit Ave				Westbound				Eastbound				Belle Ave										
	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn							
11:00 AM	11	102	2	1	0	2	117	7	73	3	0	0	0	0	2	70	3	4	3	73	0	1	22
11:15 AM	8	98	5	1	0	2	110	4	81	5	0	0	0	0	2	90	2	4	3	2	0	4	29
11:30 AM	5	95	5	2	0	2	108	3	105	7	1	0	0	0	2	143	5	2	7	3	4	0	4
11:45 AM	8	81	3	2	0	3	84	2	95	7	0	0	0	0	3	104	3	5	2	1	0	6	2
12:00 PM	20	218	15	7	0	11	429	16	264	22	1	0	0	0	8	280	9	21	9	17	0	16	96
12:15 PM	6	116	3	1	0	0	128	3	101	10	0	0	0	0	1	114	3	5	2	2	0	6	12
12:30 PM	7	104	5	1	0	1	117	5	101	4	1	0	0	0	1	111	2	4	0	2	0	6	16
12:45 PM	10	107	4	3	0	1	124	3	95	3	1	0	0	0	1	103	2	4	0	0	0	16	11
1:00 PM	6	101	4	1	0	3	123	2	102	3	0	0	0	0	1	111	2	4	0	0	0	6	9
1:15 PM	10	105	4	1	0	3	129	2	105	2	0	0	0	0	1	113	2	4	0	0	0	6	10
1:30 PM	14	104	5	0	1	3	124	3	83	6	1	0	0	0	8	111	3	3	4	0	0	11	11
1:45 PM	8	107	2	0	0	1	112	3	98	4	0	0	0	0	1	103	2	5	2	1	0	8	10
2:00 PM	28	411	18	2	1	7	488	15	279	24	2	0	0	0	6	420	10	16	8	11	0	30	45
Grand Total	90	1211	49	11	23	1297	44	1196	68	5	0	0	0	0	20	1221	30	59	21	48	0	79	150
Approach	6.8	88.6	3.3	1.1	0.1	-	3.2	90.7	5.4	0.4	0.0	-	-	-	20.0	91.3	14.0	28.7	0.0	-	-	14.3	29.3
Total %	3.1	49.0	1.5	0.5	0.0	-	46.1	1.5	21.2	2.2	0.2	0.0	-	-	14.4	1.0	1.8	0.7	1.3	0.0	-	5.0	1.8
Left %	80	1192	46	14	1	-	1261	44	1124	67	5	0	-	-	140	20	55	21	37	0	-	147	46
Thru %	87.2	98.4	100.0	93.3	100.0	-	94.4	100.0	84.8	94.5	100.0	-	-	-	99.0	100.0	100.0	100.0	97.5	-	-	98.0	96.5
Right %	0	0	0	0	0	-	0	0	0	0	0	0	-	-	0	0	0	0	0	0	-	0	0
U-Turn %	0.0	0.0	0.0	0.0	0.0	-	0.4	0.0	0.0	0.0	0.0	-	-	-	0.7	0.0	0.0	0.0	0.0	-	-	0.0	0.0
% Trucks	2	13	0	1	0	-	16	0	3	1	0	-	-	-	4	0	0	0	0	0	-	-	2
Bi-Directional Conversion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Bi-Directional Conversion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Production	-	-	-	-	-	-	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Production	-	-	-	-	-	-	91.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Turning Movement Data Plot



Lakewood, OH
154 Baker Rd
Saturday, February 23, 2019
Location: 41482279 -
81,797035

Coatesville, Pennsylvania, United States 15320
610-661-4669
Serving Transportation Professionals Since 1985

Court Name: Detroit Ave/Belle
Ave (S&B)
Site Code:
Start Date: 02/23/2019
Page No: 3

Lakewood, OH
Detroit Ave & Belle Ave
Saturday, February 23, 2019
Location: 41482279 -
81,797035

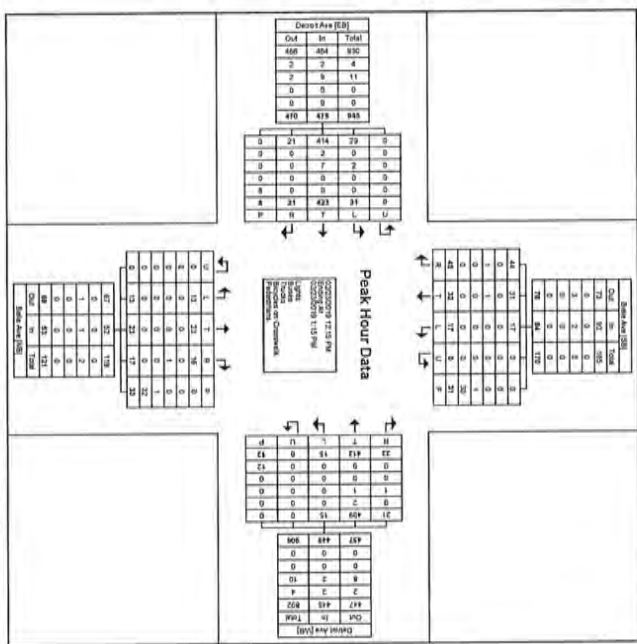
Coatesville, Pennsylvania, United States 15320
610-661-4669
Serving Transportation Professionals Since 1985

Court Name: Detroit Ave/Belle
Ave (S&B)
Site Code:
Start Date: 02/23/2019
Page No: 4

Turning Movement Peak Hour Data (12:15 PM)

Start Time	Detroit Ave					Westwood					Belle Ave					Stoddard				
	Lane	Thru	Right	Left	Turn	Lane	Thru	Right	Left	Turn	Lane	Thru	Right	Left	Turn	Lane	Thru	Right	Left	Turn
12:15 PM	7	104	5	1	0	1	117	5	101	4	1	0	1	111	3	4	0	1	0	6
12:30 PM	10	107	4	3	0	1	124	3	96	3	1	0	2	101	2	4	1	0	10	1
12:45 PM	4	87	1	1	0	3	102	2	105	2	0	0	6	117	6	8	2	7	0	3
1:00 PM	10	115	3	0	0	3	131	6	115	6	2	3	0	11	16	3	0	11	3	2
1:15 PM	11	121	3	0	0	4	135	10	118	10	3	0	10	123	4	10	8	11	26	10
1:30 PM	11	121	3	0	0	4	135	10	118	10	3	0	10	123	4	10	8	11	26	10
1:45 PM	11	121	3	0	0	4	135	10	118	10	3	0	10	123	4	10	8	11	26	10
2:00 PM	11	121	3	0	0	4	135	10	118	10	3	0	10	123	4	10	8	11	26	10
Total %	2.9	29.5	1.4	0.6	0.0	4.4	14.4	29.8	14.4	29.8	4.2	0.1	0.0	24.5	49.4	11.5	24.5	6.0	18.1	24.0
PFH	4.0	40.0	2.0	1.0	0.0	4.0	40.0	2.0	1.0	0.0	4.0	40.0	2.0	1.0	0.0	4.0	40.0	2.0	1.0	0.0
Left %	3.0	30.0	1.5	0.7	0.0	4.5	15.0	30.0	1.5	0.7	0.0	4.5	15.0	30.0	1.5	0.7	0.0	4.5	15.0	30.0
Thru %	10.0	100.0	4.0	13.3	0.0	10.0	100.0	4.0	13.3	0.0	10.0	100.0	4.0	13.3	0.0	10.0	100.0	4.0	13.3	0.0
Right %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Left Turn %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Right Turn %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Left % (Total)	3.0	30.0	1.5	0.7	0.0	4.5	15.0	30.0	1.5	0.7	0.0	4.5	15.0	30.0	1.5	0.7	0.0	4.5	15.0	30.0
Thru % (Total)	10.0	100.0	4.0	13.3	0.0	10.0	100.0	4.0	13.3	0.0	10.0	100.0	4.0	13.3	0.0	10.0	100.0	4.0	13.3	0.0
Right % (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Left Turn % (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Right Turn % (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Left % (Total %)	3.0	30.0	1.5	0.7	0.0	4.5	15.0	30.0	1.5	0.7	0.0	4.5	15.0	30.0	1.5	0.7	0.0	4.5	15.0	30.0
Thru % (Total %)	10.0	100.0	4.0	13.3	0.0	10.0	100.0	4.0	13.3	0.0	10.0	100.0	4.0	13.3	0.0	10.0	100.0	4.0	13.3	0.0
Right % (Total %)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Left Turn % (Total %)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Right Turn % (Total %)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Turning Movement Peak Hour Data Plot (12:15 PM)



Lakewood, OH
Detroit Ave & Marlowe Ave
Thursday, February 21, 2019
Location: 41,48536, -81,79581

Catskillville, Pennsylvania, United States 19320
610-463-4459
Serving Transportation Professionals Since 1995

Court Name: Detroit
Ave/Marlowe Ave
Site Code: 02ZT12019
Page No: 1

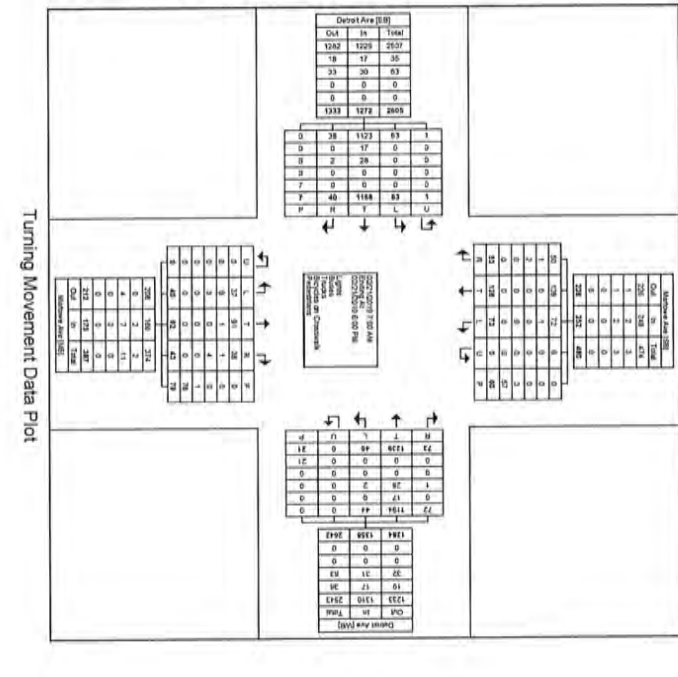
Lakewood, OH
Detroit Ave & Marlowe Ave
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Catskillville, Pennsylvania, United States 19320
610-463-4459
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Court Name: Detroit
Ave/Marlowe Ave
Site Code: 02ZT12019
Page No: 2

Turning Movement Data

Start	Detroit Ave			Westwood			Marlowe Ave			Marlowe Ave			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	3	40	1	0	0	0	0	0	0	0	0	0	
7:15 AM	5	40	2	0	0	0	0	0	0	0	0	0	
7:30 AM	5	71	0	0	0	0	0	0	0	0	0	0	
7:45 AM	5	104	0	0	0	0	0	0	0	0	0	0	
8:00 AM	18	215	3	0	0	0	0	0	0	0	0	0	
8:15 AM	3	57	1	0	0	0	0	0	0	0	0	0	
8:30 AM	4	59	1	0	0	0	0	0	0	0	0	0	
8:45 AM	12	231	3	0	0	0	0	0	0	0	0	0	
9:00 AM	1	74	0	0	0	0	0	0	0	0	0	0	
9:15 AM	5	81	3	0	0	0	0	0	0	0	0	0	
9:30 PM	2	80	4	1	0	0	0	0	0	0	0	0	
9:45 PM	5	86	0	0	0	0	0	0	0	0	0	0	
10:00 PM	14	303	13	1	0	0	0	0	0	0	0	0	
10:15 PM	6	94	3	0	0	0	0	0	0	0	0	0	
10:30 PM	5	70	6	2	0	0	0	0	0	0	0	0	
10:45 PM	4	75	4	0	0	0	0	0	0	0	0	0	
Grand Total	83	1048	36	5	1	7	1273	46	1238	70	3	0	75
Appoint	53	918	28	0	4	0	1	3	228	628	23	4	11
Total %	2.1	38.2	1.1	0.2	0.0	0.0	41.6	1.5	40.5	2.3	0.1	0.0	5.7
Light	63	1023	33	5	1	7	1253	44	1194	70	2	0	78
% Light	100	96.1	100.0	100.0	100.0	100.0	96.3	96.7	98.4	100.0	100.0	100.0	94.4
Signal	0	17	0	0	0	0	17	0	17	0	0	0	2
% Signal	0.0	1.6	0.0	0.0	0.0	0.0	1.3	0.0	1.4	0.0	0.0	0.0	2.8
Traffic	0	28	2	0	0	0	30	2	28	0	0	0	2
% Traffic	0.0	2.4	0.0	0.0	0.0	0.0	2.4	0.0	2.3	0.0	0.0	0.0	2.7
Report	0	0	0	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0	0	0	0
% Signal on	-	-	-	-	-	-	-	-	-	-	-	-	-
Precedence	-	-	-	-	-	-	-	-	-	-	-	-	-
Precedence	-	-	-	-	-	-	-	-	-	-	-	-	-
% Pedestrian	-	-	-	-	-	-	-	-	-	-	-	-	-



Turning Movement Data Plot

Lakewood, OH
Detroit Ave & Marlowe Ave
Thursday, February 21, 2019
Location: 4148556, -811795891

Crestsville, Pennsylvania, United States 19320
610-465-1469
Serving Transportation Professionals Since 1995

Count Name: Detroit
Ave/Marlowe Ave
Site Code: 022/12019
Page No: 3

Lakewood, OH
Detroit Ave & Marlowe Ave
Thursday, February 21, 2019
Location: 4148556, -811795891

Crestsville, Pennsylvania, United States 19320
610-465-1469
Serving Transportation Professionals Since 1995

Count Name: Detroit
Ave/Marlowe Ave
Site Code: 022/12019
Page No: 4



www.TSTData.com
184 Baker Rd

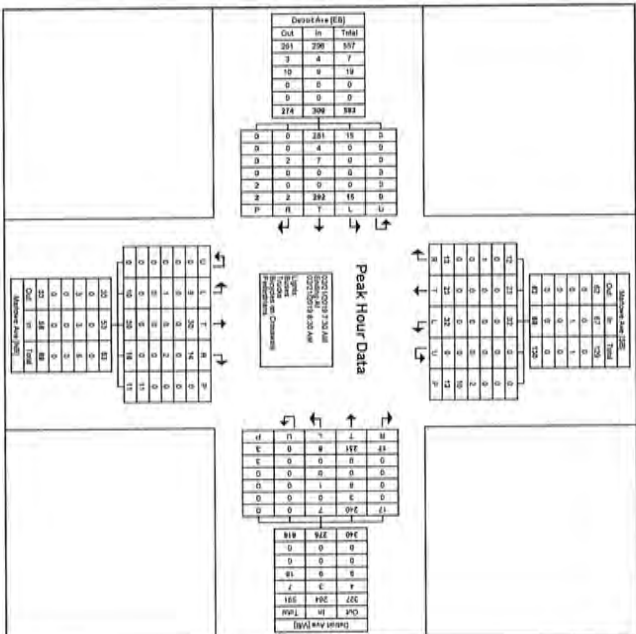


www.TSTData.com
184 Baker Rd

Turning Movement Peak Hour Data (7:30 AM)

Detroit Ave						Marlowe Ave					
Start Time	Est. Vehs	U. Ped	Regn	Left	Thru	Right	U. Ped	Regn	Left	Thru	Right
7:30 AM	5	21	0	0	0	0	2	69	1	0	0
7:45 AM	5	104	0	0	0	0	1	72	4	14	5
8:00 AM	2	60	1	0	0	0	1	60	5	0	0
8:15 AM	19	292	2	0	0	0	2	299	8	291	11
Aggregates	49	945	08	00	00	-	7	969	62	60	00
Total %	21	412	03	00	00	-	289	14	42	23	00
U-turns	0	281	0	0	0	0	296	7	240	17	0
% Lights	0	943	0.0	0.0	0.0	0.0	967	0.0	0.0	0.0	0.0
% Signs	0	4	0.0	0.0	0.0	0.0	4	0.0	0.0	0.0	0.0
% Trucks	0	7	2.0	0.0	0.0	0.0	13	0.0	0.0	0.0	0.0
% Bicycles	0	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
% Pedestrians	0	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0

Turning Movement Peak Hour Data Plot (7:30 AM)



Lakewood, OH
Detroit Ave & Marlowe Ave
Thursday, February 21, 2019
Location: 41,48535, -81,795381

Crestsville, Pennsylvania, United States 18330
610-465-4459
Serving Transportation Professionals Since 1995

Count Name: Detroit
Ave/Marlowe Ave
Site Code: 022712/2019
Start Date: 02/21/2019
Page No: 5

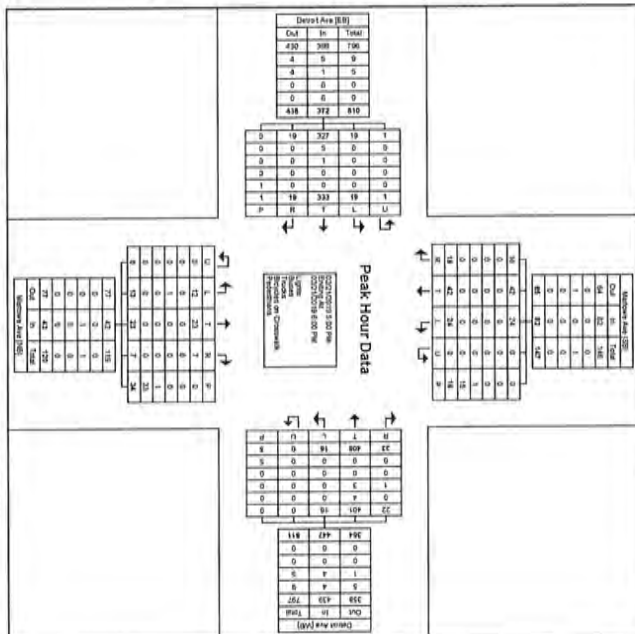
Lakewood, OH
Detroit Ave & Marlowe Ave
Thursday, February 21, 2019
Location: 41,48535, -81,795381

Crestsville, Pennsylvania, United States 18330
610-465-4459
Serving Transportation Professionals Since 1995

Count Name: Detroit
Ave/Marlowe Ave
Site Code: 022712/2019
Start Date: 02/21/2019
Page No: 9

Turning Movement Peak Hour Data (5:00 PM)

Site	Detroit Ave						Westwood Ave						Marlowe Ave						Avenue Ave								
	Left	Thru	Right	U-L	U-R	U-T	Left	Thru	Right	U-L	U-R	U-T	Left	Thru	Right	U-L	U-R	U-T	Left	Thru	Right	U-L	U-R	U-T			
5:00 PM	54	3	0	0	103	5	121	9	1	0	3	158	1	5	0	0	0	0	7	8	7	4	0	0	4	19	23
5:15 PM	4	90	4	0	1	0	99	2	30	3	0	0	36	5	8	2	0	0	19	15	6	11	7	0	0	2	28
5:30 PM	5	70	6	2	0	1	43	2	40	5	0	0	1	9	2	3	0	0	10	43	2	11	0	0	0	0	18
5:45 PM	4	79	4	0	0	0	43	7	192	5	0	0	1	14	3	0	0	0	10	43	2	11	0	0	0	0	18
Total	19	333	17	2	1	1	372	16	469	23	1	0	5	447	13	23	7	0	34	49	24	45	19	0	0	16	82
Avail	51	695	46	0	0	0	36	913	49	0	0	0	1	303	53	0	0	0	49	25	44	17	0	0	0	0	87
Total	20	365	18	0	0	0	384	17	492	23	0	0	1	344	27	0	0	0	54	47	28	47	0	0	0	0	95
PLP	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
U-Lights	19	237	17	2	1	1	386	16	407	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Lights	98.2	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	1.5	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Trucks	0.0	0.3	0.0	0.0	0.0	0.0	0.3	0.0	0.7	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Production	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Production	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Production	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Production	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Turning Movement Peak Hour Data Plot (5:00 PM)

Lakewood, OH
Detroit Ave & Marlowe Ave
Saturday, February 23, 2019
Location: 41,48536, -81,79581

Catskillville, Pennsylvania, United States 19320
610-485-1459
Serving Transportation Professionals Since 1995

Count Name: Detroit
Ave/Marlowe Ave (Sat)
Site Code: 02222019
Start Date: 02/23/2019
Page No: 3

Lakewood, OH
Detroit Ave & Marlowe Ave
Saturday, February 23, 2019
Location: 41,48536, -81,79581

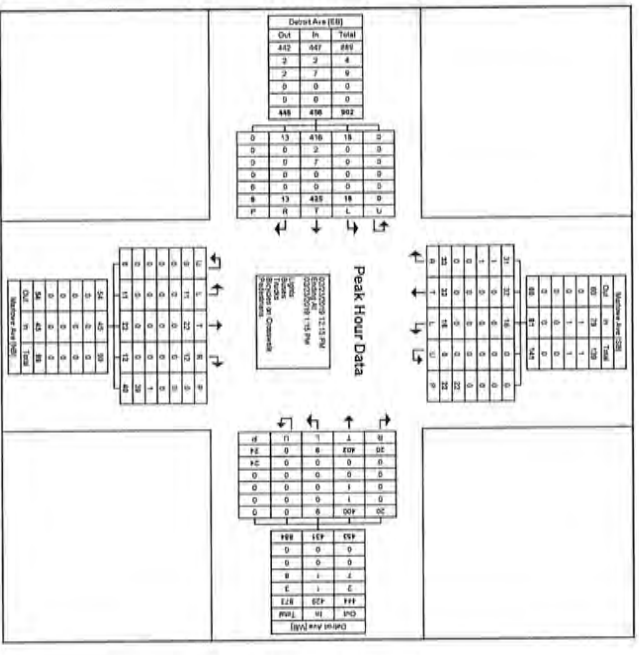
Catskillville, Pennsylvania, United States 19320
610-485-1459
Serving Transportation Professionals Since 1995

Count Name: Detroit
Ave/Marlowe Ave (Sat)
Site Code: 02222019
Start Date: 02/23/2019
Page No: 4

Turning Movement Peak Hour Data (12:15 PM)

Start Time	Detroit Ave				Marlowe Ave				Middletown Ave				Scribner Ave			
	L	R	L+R	App. Tot	L	R	L+R	App. Tot	L	R	L+R	App. Tot	L	R	L+R	App. Tot
12:15 PM	4	102	2	108	2	98	1	100	7	6	13	13	1	3	4	4
12:30 PM	6	114	2	122	1	84	0	85	1	4	5	9	4	8	12	20
12:45 PM	4	112	0	116	4	117	4	125	7	6	13	13	3	10	13	26
1:00 PM	4	112	1	117	4	117	4	125	7	6	13	13	3	10	13	26
App. Total	18	432	11	461	11	416	5	432	26	25	51	51	11	31	42	82
App. Total	38	802	24	864	21	503	42	566	24	46	70	70	19	51	70	140
Total	1.8	42.6	1.1	45.7	0.8	33.7	1.8	46.5	1.1	2.2	1.2	1.2	0.4	1.6	3.2	6.4
PFV	0.75	0.82	0.10	0.86	0.24	0.60	0.47	0.68	0.24	0.19	0.28	0.28	0.19	0.47	0.57	0.80
Lights	18	416	11	445	8	400	18	426	11	22	33	33	4	16	20	34
% Lights	100	97.8	100.0	99.2	36.0	96.5	100.0	99.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Buses	0	2	0	2	0	0	0	0	1	0	0	0	0	0	1	1
% Buses	0.0	0.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trucks	0	7	0	7	0	0	0	0	1	0	0	0	0	0	1	1
% Trucks	0.0	1.6	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Production	6	100	0	106	0	95	0	95	0	0	0	0	0	0	0	0
% Production	33.3	23.1	0.0	23.1	0.0	22.5	0.0	22.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Turning Movement Peak Hour Data Plot (12:15 PM)



Lakewood, OH
 Detroit Ave & Lincoln Ave
 Thursday, February 21, 2019
 Location: 41485404, -
 817194574



www.TSITData.com
 184 Baker Rd

Covington, Pennsylvania, United States 19320
 Site Code: 6104661469
 Serving Transportation Professionals Since 1985

Count Name: Detroit Ave/ Lincoln Ave
 Site Code: 0221/2019
 Start Date: 02/21/2019
 Page No: 1

Turning Movement Data

Start Time	Detroit Ave			Westwood			Lincoln Ave			Southwood		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:00 AM	1	36	0	0	0	27	0	31	0	0	7	0
7:15 AM	0	62	0	0	1	63	0	0	0	0	0	0
7:30 AM	0	64	2	0	1	70	0	0	0	1	14	0
7:45 AM	0	118	3	0	0	121	0	0	0	2	14	0
Hourly Total	1	300	5	0	1	308	0	0	0	48	40	0
8:00 AM	3	66	0	0	0	69	0	0	0	0	0	0
8:15 AM	0	70	2	0	0	74	0	0	0	0	0	0
8:30 AM	2	80	2	0	0	84	0	0	0	0	0	0
8:45 AM	1	59	2	0	0	62	0	0	0	0	0	0
Hourly Total	6	295	6	0	0	307	0	0	0	0	0	0
---SUM---	5	76	2	0	1	83	0	0	0	48	40	0
4:00 PM	1	74	5	2	1	92	10	10	1	0	0	0
4:15 PM	4	74	3	0	3	81	8	8	2	0	0	0
4:30 PM	3	90	2	0	2	95	7	10	4	0	0	0
Hourly Total	13	224	12	2	7	251	25	28	6	0	0	0
5:00 PM	1	84	6	0	0	91	14	15	5	0	0	0
5:15 PM	1	72	4	1	2	80	14	15	5	0	0	0
5:30 PM	2	81	4	0	3	88	16	17	6	0	0	0
5:45 PM	6	347	14	2	4	371	47	49	4	2	0	0
Hourly Total	26	1236	41	4	13	1291	120	130	24	2	0	0
Grand Total	42	1645	52	4	14	1701	168	178	30	50	0	0
Approach %	22	94.5	3.2	0.3	0.3	0.3	0.3	0.3	0.1	0.1	0.0	0.0
Total %	0.9	41.4	1.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
Left %	23	1191	39	4	1241	120	1297	31	2	1419	28	4
Thru %	84.5	963	96.1	100.0	96.1	100.0	96.4	91.2	100.0	96.2	100.0	100.0
Right %	1.6	1	0	0	1.9	0	1.8	0	0	0	0	0
% Trucks	1	29	1	0	31	0	29	0	0	0	0	0
% Trucks	2.8	2.4	2.4	0.0	2.4	0.0	2.2	0.0	0.0	0.0	0.0	0.0
Reckless or 5 or more	-	-	-	0	-	-	-	-	-	-	-	-
Crashes	-	-	-	0.0	-	-	0.0	-	-	2.1	-	-
Pedestrians	-	-	-	12	-	-	1	-	-	47	-	-
Pedestrians	-	-	-	100.0	-	-	100.0	-	-	87.9	-	-

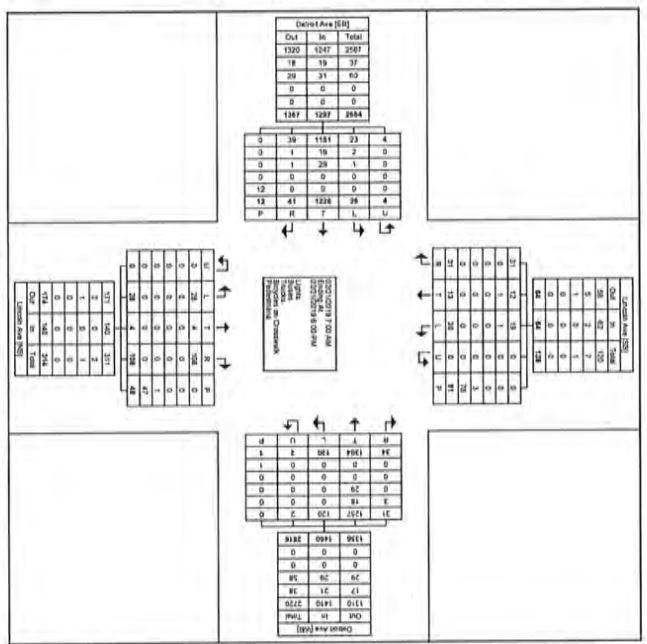
Lakewood, OH
 Detroit Ave & Lincoln Ave
 Thursday, February 21, 2019
 Location: 41485404, -
 817194574



www.TSITData.com
 184 Baker Rd

Covington, Pennsylvania, United States 19320
 Site Code: 6104661469
 Serving Transportation Professionals Since 1985

Count Name: Detroit Ave/ Lincoln Ave
 Site Code: 0222/2019
 Start Date: 02/21/2019
 Page No: 2



Turning Movement Data Plot

Lakewood, OH
 Court Name: Detroit Ave & Lincoln Ave
 Thursday, February 21, 2019
 Location: 41485404

Coatesville, Pennsylvania, United States 19320
 Site Code: 6104861408
 Start Date: 02/21/2019
 Saving Transportation Professionals Since 1995

Count Name: Detroit Ave & Lincoln Ave
 Site Code: 6104861408
 Start Date: 02/21/2019
 Page No: 3



Lakewood, OH
 Court Name: Detroit Ave & Lincoln Ave
 Thursday, February 21, 2019
 Location: 41485404

Coatesville, Pennsylvania, United States 19320
 Site Code: 6104861408
 Start Date: 02/21/2019
 Saving Transportation Professionals Since 1995

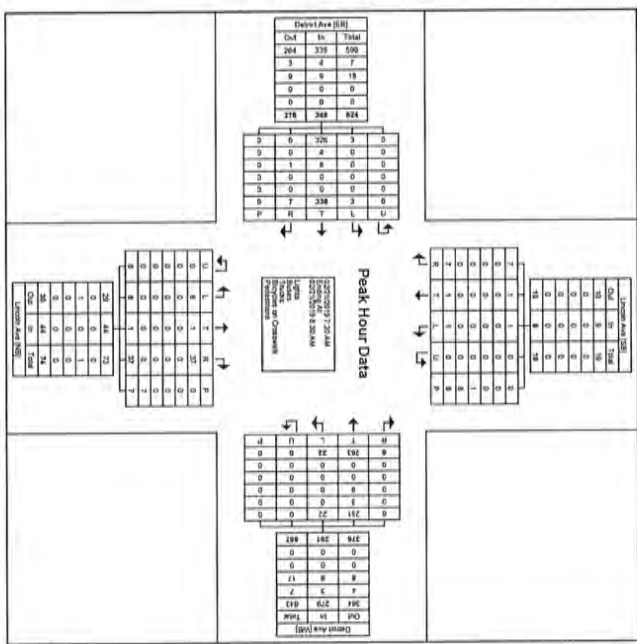
Count Name: Detroit Ave & Lincoln Ave
 Site Code: 6104861408
 Start Date: 02/21/2019
 Page No: 4



Turning Movement Peak Hour Data (7:30 AM)

Start Time	Detroit Ave			Westwood Ave			Lincoln Ave			Stockton Ave		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:30 AM	0	54	2	0	0	0	0	0	0	0	0	0
7:45 AM	0	119	0	0	0	0	0	0	0	0	0	0
8:00 AM	3	66	0	0	69	3	57	1	0	0	2	0
8:15 AM	0	76	2	0	0	0	0	0	0	0	0	0
Total	3	255	2	0	248	27	263	1	0	2	2	0
Approach %	0.9	97.1	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total %	0.4	48.8	1.6	0.0	50.3	12.3	38.8	0.9	0.0	0.0	0.0	0.0
PFR	0.250	0.716	0.883	0.000	0.719	0.617	0.654	0.500	0.000	0.877	0.759	0.681
LU/HS	3	255	2	0	248	27	263	1	0	2	2	0
%LU/HS	100.0	96.4	88.7	0.0	99.3	100.0	98.4	100.0	100.0	100.0	100.0	100.0
Beams	0	4	0	0	0	0	0	0	0	0	0	0
%Beams	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trucks	0	8	1	0	0	0	0	0	0	0	0	0
%Trucks	0.0	2.4	14.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%Overalls	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%Bicycles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%Overalls	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%Pedestrians	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Turning Movement Peak Hour Data Plot (7:30 AM)



Lakewood, OH
 154 Baker Rd
 Thursday, February 21, 2019
 Location: 41.485404, -81.794574



Courtesy Name: DePaul Ave/Lincoln Ave
 Site Code: 02Z1/2019
 Start Date: 02/21/2019
 Page No: 5

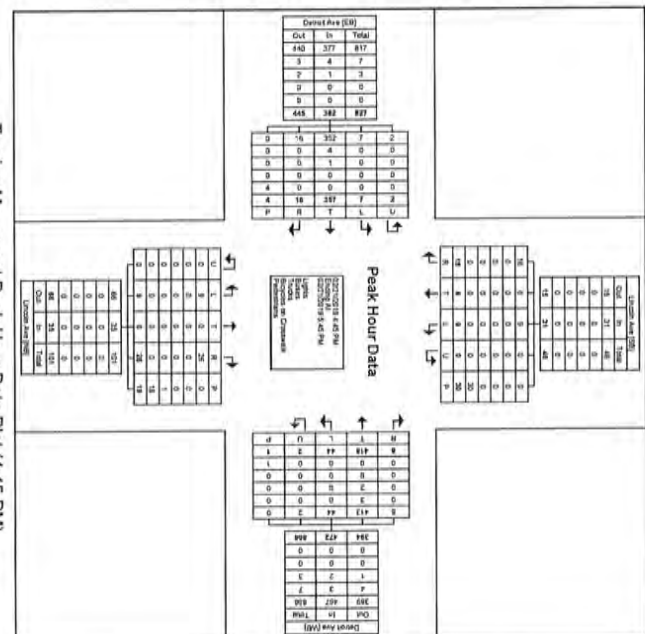
Lakewood, OH
 DePaul Ave & Lincoln Ave
 Thursday, February 21, 2019
 Location: 41.485404, -81.794574



Courtesy Name: DePaul Ave/Lincoln Ave
 Site Code: 02Z1/2019
 Start Date: 02/21/2019
 Page No: 5

Turning Movement Peak Hour Data (4:45 PM)

Hour Time	DePaul Ave			Westbound			Lincoln Ave			Lincoln Ave																			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right																	
4:45 PM	3	90	2	0	7	96	7	101	4	0	4	0	7	5	3	2	7	0	0	12	224								
5:00 PM	1	64	0	0	0	107	14	136	2	0	45	2	0	0	0	0	0	0	0	0	0	0	5	206					
5:15 PM	1	101	2	1	2	106	14	87	2	1	0	104	4	0	0	0	0	0	0	12	1	2	4	0	0	0	5	208	
5:30 PM	2	72	0	1	0	81	0	64	0	1	0	104	2	0	0	0	0	0	0	2	10	2	3	0	0	0	0	7	202
Total	7	257	4	2	4	282	44	418	8	2	1	472	9	0	26	0	19	25	0	0	16	16	0	0	0	0	0	21	802
Average %	1.8	93.5	4.2	0.8	1.5	88.6	1.7	0.4	0.3	0.1	0.3	51.3	1.0	0.0	2.6	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	
Total %	0.8	38.8	1.7	0.2	0.2	41.5	4.8	45.4	0.9	0.2	0.1	51.3	1.0	0.0	2.6	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	
P/P	0.823	0.844	0.687	0.500	0.2519	0.785	0.920	0.950	0.2719	0.289	0.000	0.513	0.000	0.0719	0.785	0.3571	0.000	0.0486	0.885										
Left	7	252	18	2	277	44	413	8	2	1	467	9	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	21	812
Right	0	4	0	0	4	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thru	0	11	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0.0	0.3	0.0	0.0	0.3	0.0	0.3	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	
% Bicycles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Production	4	100.0	4	1	100.0	19	100.0	19	100.0	19	100.0	19	100.0	19	100.0	19	100.0	19	100.0	19	100.0	19	100.0	19	100.0	19	100.0	19	100.0
Production %	4	100.0	4	1	100.0	19	100.0	19	100.0	19	100.0	19	100.0	19	100.0	19	100.0	19	100.0	19	100.0	19	100.0	19	100.0	19	100.0	19	100.0



Turning Movement Peak Hour Data Plot (4:45 PM)

Lakewood, NJ
 Detroit Ave & Lincoln Ave
 Saturday, February 23, 2019
 Location: 41485404, -
 81.734574



www.TSIData.com
 184 Baker Rd
 Coatesville, Pennsylvania, United States 19320
 Phone: 610-485-1489
 Serving Transportation Professionals Since 1995

Court Name: Detroit Ave/Lincoln Ave (Sat)
 Site Code: 022202019
 Start Date: 02/23/2019
 Page No: 1

Lakewood, NJ
 Detroit Ave & Lincoln Ave
 Saturday, February 23, 2019
 Location: 41485404, -
 81.734574



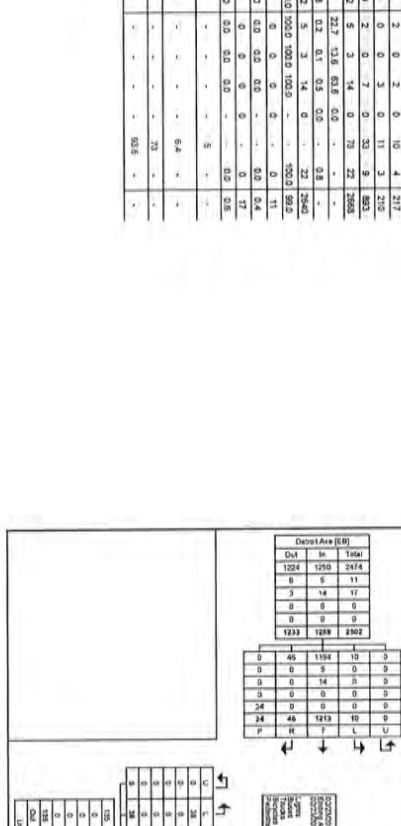
www.TSIData.com
 184 Baker Rd
 Coatesville, Pennsylvania, United States 19320
 Phone: 610-485-1489
 Serving Transportation Professionals Since 1995

Court Name: Detroit Ave/Lincoln Ave (Sat)
 Site Code: 022202019
 Start Date: 02/23/2019
 Page No: 2

Turning Movement Data

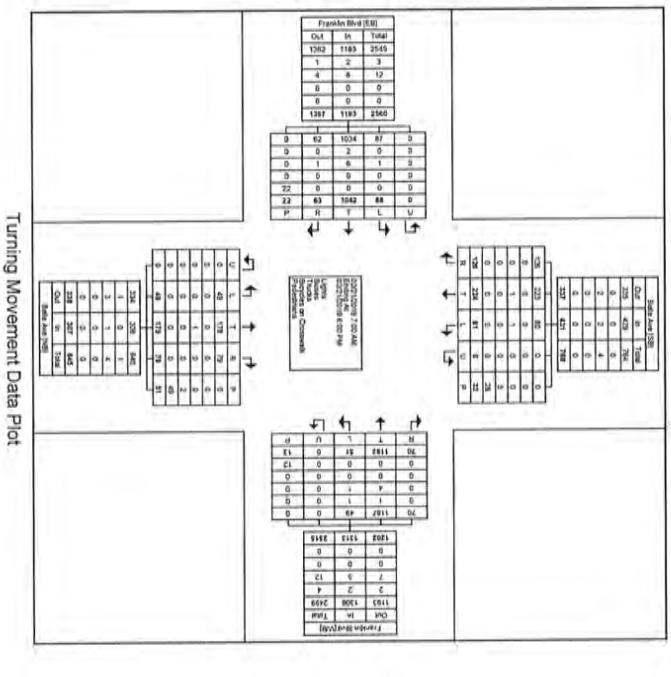
Start Time	Detroit Ave			Westbound			Northbound			Southbound									
	Lft	Thru	Right	Lft	Thru	Right	Lft	Thru	Right	Lft	Thru	Right							
11:00 AM	0	105	3	0	1	103	4	87	0	0	6	0	0	0	0	0	0	0	0
11:15 AM	1	106	2	0	3	109	6	81	0	0	87	2	0	8	0	2	11	0	0
11:30 AM	0	86	2	0	0	100	12	112	0	0	0	124	0	5	0	7	7	0	0
11:45 AM	0	80	3	0	0	83	5	84	1	0	0	101	3	0	3	0	5	6	1
Hourly Total	1	289	10	0	4	490	29	314	1	0	0	400	7	0	20	0	19	30	1
12:00 PM	1	116	9	0	4	113	7	110	0	0	0	117	6	0	0	0	11	12	0
12:15 PM	0	118	3	0	0	121	12	107	0	0	3	117	3	0	6	0	9	4	0
12:30 PM	1	98	4	0	4	100	7	97	2	2	0	108	3	0	5	0	7	8	2
Hourly Total	3	420	19	0	8	422	26	407	3	2	3	444	15	0	18	0	20	20	2
1:00 PM	0	96	2	0	4	99	7	96	0	0	0	120	8	0	5	0	7	13	0
1:15 PM	2	98	4	0	5	105	5	95	0	0	0	120	1	0	5	0	7	0	2
1:30 PM	1	85	7	0	1	89	3	85	0	0	1	103	5	0	2	0	6	11	0
Hourly Total	6	324	17	0	12	417	25	400	0	0	1	428	16	0	23	0	25	29	2
Grand Total	10	1213	48	0	24	1290	63	1181	6	2	4	1278	38	0	64	0	71	100	3
Approach %	0.8	99.6	2.6	0.0	1.9	99.6	0.5	0.2	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Depart %	0.4	45.5	1.2	0.0	0.6	47.3	3.2	80.8	0.2	0.1	0.0	47.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Left %	0.0	18.4	0.0	0.0	0.0	18.4	0.0	51.1	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thru %	0.0	52.1	0.0	0.0	0.0	52.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Right %	0.0	14.4	0.0	0.0	0.0	14.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Trucks	0.0	1.2	0.0	0.0	1.1	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Stoppage on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Stoppage on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Median %	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Median %	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrian %	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Turning Movement Data Plot



Turning Movement Data

Time	Franklin Blvd	Baker Ave	Baker Ave	Baker Ave
Estimate	Franklin Blvd	Northbound	Southbound	Eastbound
Left	Thru	Right	Thru	Left
From Lane 1	From Lane 1	From Lane 1	From Lane 1	From Lane 1
Vol	Vol	Vol	Vol	Vol
7:00 AM	4 36 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
7:15 AM	3 53 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
7:30 AM	6 112 2 1 0 2 121 1 63 9 0 0 0 0 73 6 17 3 2 0 13 28	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
7:45 AM	11 105 1 1 0 0 118 6 115 7 0 0 0 0 128 5 21 6 1 0 10 23	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
8:00 AM	24 208 2 5 0 3 240 10 235 19 0 0 0 1 264 18 52 14 9 0 23 31	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
8:15 AM	13 48 2 2 0 0 47 3 59 3 0 0 0 0 42 2 14 0 3 0 1 19	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
8:30 AM	7 44 3 0 0 0 1 24 2 20 4 2 0 0 1 25 4 13 1 1 0 0 16	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
8:45 AM	6 54 3 2 0 0 2 26 2 25 3 1 0 0 2 24 1 12 2 1 0 0 16	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
9:00 AM	26 189 13 5 0 2 249 7 218 13 0 0 2 241 11 48 2 6 0 2 38	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
9:15 AM	3 51 1 2 0 0 3 59 6 101 4 0 0 2 111 7 3 0 0 0 3 17	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
9:30 AM	2 60 1 2 0 0 0 65 1 101 4 0 0 1 108 4 6 0 0 0 2 16	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
9:45 PM	5 66 4 0 0 0 0 75 5 73 3 1 0 0 82 1 3 10 1 0 4 16	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
10:00 PM	7 62 1 0 0 0 1 70 3 99 3 0 0 1 85 1 10 8 2 0 3 21	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
10:15 PM	17 229 9 4 0 0 4 269 15 264 14 1 0 4 284 13 28 27 4 0 12 29	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
10:30 PM	2 67 7 0 0 0 1 64 8 102 2 2 0 1 117 3 17 4 2 0 0 2 26	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
10:45 PM	5 71 3 0 0 0 1 79 4 96 3 0 0 2 103 1 9 5 1 0 0 5 16	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
11:00 PM	2 77 7 0 0 0 3 86 5 84 3 1 0 0 83 3 9 2 3 4 0 0 18	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
11:15 PM	11 259 24 1 0 10 233 19 215 16 4 0 0 5 414 9 52 13 4 0 8 78	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
11:30 PM	86 1042 48 15 0 22 149 51 140 82 8 0 12 1313 49 179 56 23 0 51 207	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Totals	714 873 48 113 02 - - - 326 894 47 948 03 - - - 1610 963 842 735 03 - - - 194 529 193 1029 02 - - -	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
% Lights	87 1024 47 15 0 - - 1401 49 1027 82 8 0 - - 1594 49 178 56 23 0 - - 205 80 223 83 43 0 - - 459 528	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
% Trucks	0 2 0 0 0 0 - - - 0 2 1 1 0 0 0 - - - 0 0 0 0 0 0 0 - - - 0 0 0 0 0 - - -	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
% Buses	0 0 0 0 0 0 - - - 0 2 0 0 0 0 - - - 0 0 0 0 0 0 0 - - - 0 0 0 0 0 0 - - -	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
% Heavy	1 8 1 0 0 0 - - - 6 1 4 3 0 0 - - - 5 9 1 0 0 0 - - - 1 1 1 1 0 0 - - -	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
% Trucks	1 8 1 0 0 0 - - - 6 1 4 3 0 0 - - - 5 9 1 0 0 0 - - - 1 1 1 1 0 0 - - -	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
% Heavy	1 8 1 0 0 0 - - - 6 1 4 3 0 0 - - - 5 9 1 0 0 0 - - - 1 1 1 1 0 0 - - -	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
% Buses	0 0 0 0 0 0 - - - 0 2 0 0 0 0 - - - 0 0 0 0 0 0 0 - - - 0 0 0 0 0 0 - - -	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
% Heavy	1 8 1 0 0 0 - - - 6 1 4 3 0 0 - - - 5 9 1 0 0 0 - - - 1 1 1 1 0 0 - - -	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

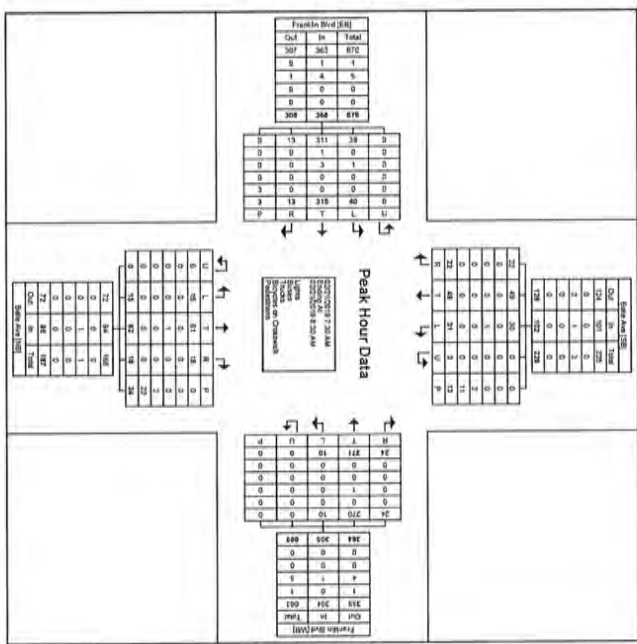


Turning Movement Data Plot

Turning Movement Peak Hour Data (7:30 AM)

Start Time	Franklin Blvd				Westbound				Lakewood				Bale Ave				
	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	
7:30 AM	6	112	2	0	2	121	1	63	0	0	0	0	17	2	0	13	23
7:45 AM	11	105	1	0	0	119	0	0	0	0	0	0	21	6	1	10	23
8:00 AM	11	82	2	0	0	87	0	0	0	0	0	0	18	2	1	14	1
8:15 AM	12	66	0	0	0	67	0	0	0	0	0	0	15	0	0	15	2
8:30 AM	10	213	0	0	3	268	0	0	0	0	0	0	24	66	31	49	13
Percent	10.9	85.6	2.4	0.0	3.2	89.9	0.0	0.0	0.0	0.0	0.0	0.0	20.4	45.0	11.8	9.8	0.0
Total %	4.9	36.2	1.0	0.0	4.2	31.1	2.8	0.0	0.0	0.0	0.0	0.0	10.9	2.6	1.4	1.1	0.0
PHF	0.80	0.70	0.80	0.00	0.76	0.87	0.80	0.00	0.00	0.70	0.70	0.00	0.80	0.80	0.80	0.80	0.80
U-Turns	38	211	9	4	0	303	0	0	0	0	0	0	34	20	49	13	0
% U-Turns	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Trucks	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Trucks	1	3	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0
% Trucks	2.8	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	3.2	0.0	0.0	0.0
Stop/Sec	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stop/Sec	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Stop/Sec	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Precedence	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Precedence	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Precedence	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Precedence	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Turning Movement Peak Hour Data Plot (7:30 AM)



Lakewood, OH
 Franklin Blvd & Biele Ave
 Saturday, February 23, 2019
 Location: 41491851, -
 81.197029



www.TSTData.com
 194 Baker Rd

Cotatesville, Pennsylvania, United States 19320
 Start Code: 610-465-1469
 Serving Transportation Professionals Since 1995

Court Name: Franklin Blvd/Biele
 Ave (S&T)
 Site Code:
 Start Date: 02/23/2019
 Page No: 1

Lakewood, OH
 Franklin Blvd & Biele Ave
 Saturday, February 23, 2019
 Location: 41491851, -
 81.197029



www.TSTData.com
 194 Baker Rd

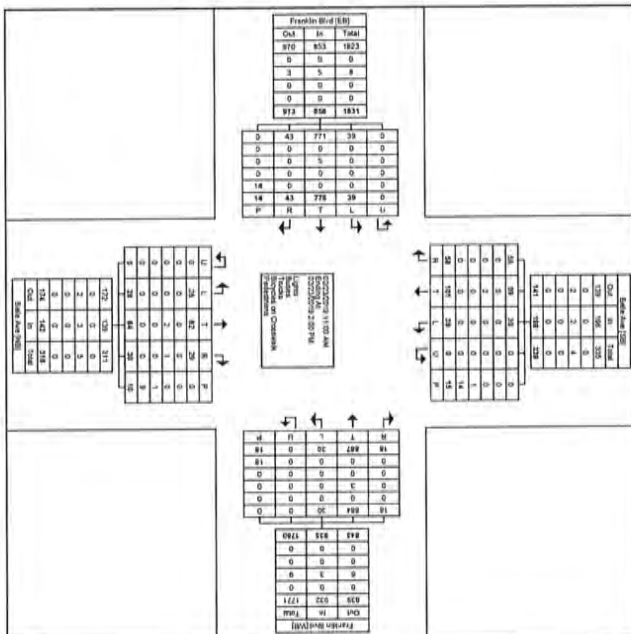
Cotatesville, Pennsylvania, United States 19320
 Start Code: 610-465-1469
 Serving Transportation Professionals Since 1995

Court Name: Franklin Blvd/Biele
 Ave (S&T)
 Site Code:
 Start Date: 02/23/2019
 Page No: 2

Turning Movement Data

Date	Franklin Blvd			Westbound			Biele Ave			Southbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
11:09 AM	0	53	3	0	0	0	0	0	2	0	2	11
11:15 AM	5	70	6	0	0	0	0	0	2	0	11	7
11:24 AM	3	72	1	0	0	0	0	0	1	0	12	6
11:45 AM	2	68	4	0	0	0	0	0	1	0	1	7
12:00 PM	2	68	4	0	0	0	0	0	1	0	0	7
12:05 PM	3	75	4	0	0	0	0	0	1	0	0	4
12:15 PM	3	69	2	0	0	0	0	0	1	0	0	4
12:25 PM	4	67	1	0	0	0	0	0	1	0	0	4
12:35 PM	1	82	2	0	0	0	0	0	1	0	0	3
1:05 PM	1	82	2	0	0	0	0	0	1	0	0	3
1:35 PM	2	66	1	0	0	0	0	0	1	0	0	3
2:05 PM	5	68	2	0	0	0	0	0	1	0	0	3
2:35 PM	11	227	10	0	0	0	0	0	1	0	0	3
Grand Total	39	779	30	0	0	0	0	0	19	0	0	15
Approach	4.8	38.4	1.8	0.4	0.0	-	3.2	94.9	1.4	0.5	0.0	-
Total %	1.4	14.4	0.6	0.0	-	-	10.7	99.2	0.5	0.0	0.0	-
Light	39	771	35	0	0	0	0	0	29	0	0	15
% Lights	100	99.4	100.0	0.0	0.0	0.0	0.0	99.2	97.6	0.0	0.0	100.0
Buses	0	0	0	0	0	0	0	0	0	0	0	0
Taxis	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bikes	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	0	0	0	0	0	0	0	0	0	0	0	0
% Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Population	-	-	-	-	-	-	-	-	-	-	-	-
% Population	-	-	-	-	-	-	-	-	-	-	-	-

Turning Movement Data Plot





www.TSDData.com

Lakewood, OH
184 Baker Rd
Saturday, February 23, 2019
Location: 41481851, -
81.191028

Cosatesville, Pennsylvania, United States 19320
610-465-1469
Serving Transportation Professionals Since 1995

Count Name: Franklin Blvd/Bale
Ave (Sat)
Site Code:
Start Date: 02/23/2019
Page No: 3

Lakewood, OH
Franklin Blvd & Bale Ave
Saturday, February 23, 2019
Location: 41481851, -
81.191028

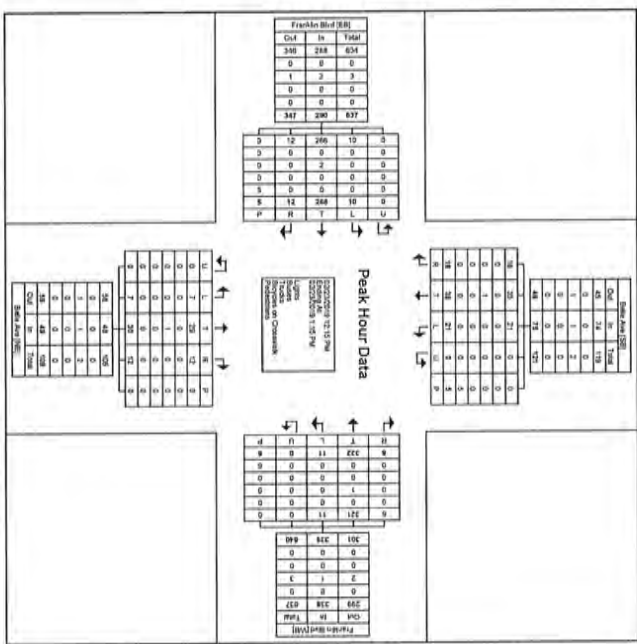
Cosatesville, Pennsylvania, United States 19320
610-465-1469
Serving Transportation Professionals Since 1995

Count Name: Franklin Blvd/Bale
Ave (Sat)
Site Code:
Start Date: 02/23/2019
Page No: 4

Turning Movement Peak Hour Data (12:15 PM)

Start Time	Franklin Blvd					Westwood					Baker Ave					Bale Ave				
	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total
12:15 PM	2	72	4	1	80	2	77	1	0	80	0	3	2	2	7	50	6	2	1	60
12:30 PM	3	73	2	0	80	2	78	2	0	82	0	3	2	0	5	4	14	2	0	20
12:45 PM	4	67	1	0	72	4	69	2	0	75	1	11	1	0	13	2	16	4	1	23
1:00 PM	1	56	3	2	62	1	52	3	0	56	5	15	3	2	20	5	10	4	0	19
Total	10	268	10	3	281	9	276	8	4	291	1	31	5	2	39	11	38	11	2	62
Avail	3.4	62.4	3.4	0.7	70.5	3.2	60.0	1.5	0.3	64.0	14.3	61.2	6.3	0.5	72.3	28.0	46.0	6.0	0.0	40.0
Total %	1.3	38.6	1.3	0.9	38.5	1.5	42.3	0.7	0.1	43.0	4.9	49.0	1.1	0.5	50.5	6.5	23.4	1.6	0.0	19.0
PRF	0.62	0.93	0.62	0.40	0.62	0.60	0.91	0.62	0.40	0.62	0.80	0.62	0.40	0.62	0.62	0.62	0.62	0.40	0.62	0.62
LUFS	100	268	100	2	281	111	271	5	1	281	7	26	8	4	39	41	35	13	6	5
% Lights	0	66.3	0	0	66.3	0	66.3	0	0	66.3	0	66.3	0	0	66.3	0	66.3	0	0	66.3
Bikes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trucks	0	2	0	0	2	0	1	0	0	1	0	1	0	0	1	0	1	0	0	1
% Trucks	0.0	0.7	0.0	0.0	0.7	0.0	0.3	0.0	0.0	0.3	0.0	3.3	0.0	0.0	2.6	0.0	0.0	0.0	0.0	1.3
Boys/Girls	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Overweight	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Bicycles Overweight	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrian	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Pedestrian	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Turning Movement Peak Hour Data Plot (12:15 PM)



Lakewood, OH
Franklin Blvd & Marlowe Ave
Thursday, February 27, 2019
Location: 41481845 -
81,735549

www.TSTDData.com
184 Baker Rd
Coatesville, Pennsylvania, United States 19320
610-462-1469
Serving Transportation Professionals Since 1985

Count Name: Franklin Blvd/Marlowe Ave
Site Code:
Start Date: 02/21/2019
Page No: 1

Lakewood, OH
Franklin Blvd & Marlowe Ave
Thursday, February 21, 2019
Location: 41481845 -
81,735549

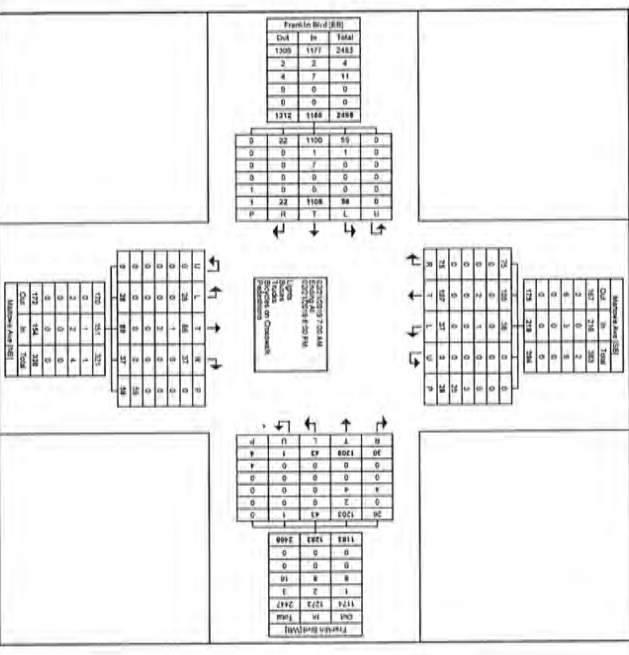
www.TSTDData.com
184 Baker Rd
Coatesville, Pennsylvania, United States 19320
610-462-1469
Serving Transportation Professionals Since 1985

Count Name: Franklin Blvd/Marlowe Ave
Site Code:
Start Date: 02/21/2019
Page No: 2

Turning Movement Data

Start Time	Franklin Blvd Eastbound			Franklin Blvd Westbound			Marlowe Ave Northbound			Marlowe Ave Southbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	2	41	0	0	0	0	1	4	2	0	0	0	14
7:15 AM	0	61	0	0	0	0	3	30	0	2	1	0	34
7:30 AM	2	119	2	0	0	0	4	6	3	13	13	1	121
7:45 AM	9	131	1	0	0	0	119	1	0	14	13	3	293
8:00 AM	13	342	3	0	0	0	252	5	23	9	0	33	692
8:15 AM	4	46	1	0	0	0	62	0	5	1	6	1	76
8:30 AM	7	49	1	0	0	0	36	2	0	0	0	0	55
8:45 AM	12	197	5	0	0	0	234	8	21	6	0	2	363
9:00 AM	5	54	1	0	0	0	115	1	8	2	0	2	134
9:15 AM	5	66	2	0	0	0	107	2	6	4	0	5	124
9:30 AM	3	67	3	0	0	0	73	2	3	2	0	4	87
9:45 PM	4	62	2	0	0	0	69	3	3	4	0	4	80
10:00 PM	11	139	1	0	0	0	112	1	2	4	0	1	130
10:15 PM	5	72	2	0	0	0	106	1	0	2	0	0	109
10:30 PM	5	73	1	0	0	0	99	2	0	0	0	0	101
10:45 PM	2	24	1	0	0	0	81	3	0	0	0	0	84
11:00 PM	3	53	1	0	0	0	47	1	0	0	0	0	51
11:15 PM	1	21	0	0	0	0	15	1	0	0	0	0	16
11:30 PM	2	31	0	0	0	0	18	1	0	0	0	0	19
11:45 PM	1	20	0	0	0	0	10	1	0	0	0	0	11
12:00 AM	1	21	0	0	0	0	8	1	0	0	0	0	9
12:15 AM	1	21	0	0	0	0	8	1	0	0	0	0	9
12:30 AM	1	21	0	0	0	0	8	1	0	0	0	0	9
12:45 AM	1	21	0	0	0	0	8	1	0	0	0	0	9
1:00 AM	1	21	0	0	0	0	8	1	0	0	0	0	9
1:15 AM	1	21	0	0	0	0	8	1	0	0	0	0	9
1:30 AM	1	21	0	0	0	0	8	1	0	0	0	0	9
1:45 AM	1	21	0	0	0	0	8	1	0	0	0	0	9
2:00 AM	1	21	0	0	0	0	8	1	0	0	0	0	9
2:15 AM	1	21	0	0	0	0	8	1	0	0	0	0	9
2:30 AM	1	21	0	0	0	0	8	1	0	0	0	0	9
2:45 AM	1	21	0	0	0	0	8	1	0	0	0	0	9
3:00 AM	1	21	0	0	0	0	8	1	0	0	0	0	9
3:15 AM	1	21	0	0	0	0	8	1	0	0	0	0	9
3:30 AM	1	21	0	0	0	0	8	1	0	0	0	0	9
3:45 AM	1	21	0	0	0	0	8	1	0	0	0	0	9
4:00 AM	1	21	0	0	0	0	8	1	0	0	0	0	9

Turning Movement Data Plot



Lakewood, OH
 Franklin Blvd & Marlowe Ave
 Thursday, February 21, 2019
 Location: 41,481946,-

Coeleeville, Pennsylvania, United States 19320
 Coaleeville, PA 19320
 Site Code: 0221/2019
 Serving Transportation Professionals Since 1995

Count Name: Franklin
 Blvd/Marlowe Ave
 Site Code: 0221/2019
 Start Date: 02/21/2019
 Page No: 5



Lakewood, OH
 Franklin Blvd & Marlowe Ave
 Thursday, February 21, 2019
 Location: 41,481946,-

Coeleeville, Pennsylvania, United States 19320
 Coaleeville, PA 19320
 Site Code: 0221/2019
 Serving Transportation Professionals Since 1995

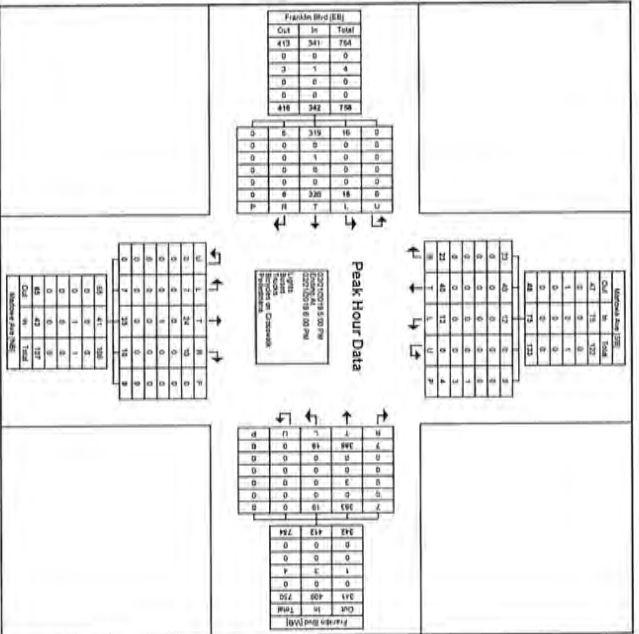
Count Name: Franklin
 Blvd/Marlowe Ave
 Site Code: 0221/2019
 Start Date: 02/21/2019
 Page No: 5



Turning Movement Peak Hour Data (5:00 PM)

Start Time	Franklin Blvd				Marlowe Ave				Northbound				Southbound												
	Lt	Thru	Rght	Totl	Lt	Thru	Rght	Totl	Lt	Thru	Rght	Totl	Lt	Thru	Rght	Totl									
5:00 PM	4	72	2	0	0	78	8	108	1	0	0	0	2	4	0	1	7	1	8	7	0	1	14	216	
5:15 PM	5	60	1	0	0	76	3	99	3	0	0	105	2	8	2	0	2	12	1	14	3	0	2	18	234
5:30 PM	3	74	1	0	0	78	3	99	0	0	0	101	0	7	1	0	6	6	5	9	3	0	1	17	204
5:45 PM	4	81	2	0	0	87	5	81	3	0	0	89	4	8	3	0	15	5	11	10	0	0	28	217	
Total	16	230	6	0	0	342	19	369	7	0	0	412	7	25	10	0	42	12	40	23	0	4	78	871	
Approach %	4.7	63.8	1.6	0.0	0.0	39.3	2.2	44.3	0.8	0.0	0.0	47.3	0.8	2.5	1.1	0.0	4.8	1.4	4.8	2.5	0.0	0.0	8.5	100.0	
Total %	1.8	26.7	0.7	0.0	0.0	39.3	2.2	44.3	0.8	0.0	0.0	47.3	0.8	2.5	1.1	0.0	4.8	1.4	4.8	2.5	0.0	0.0	8.5	100.0	
Flow	0.800	0.899	0.750	0.000	0.000	0.864	0.924	0.924	0.924	0.000	0.000	0.800	0.808	0.781	0.825	0.000	0.700	0.600	0.714	0.815	0.000	0.000	0.721	0.931	
Light	16	219	6	0	0	341	19	368	7	0	0	409	7	24	10	0	41	12	40	23	0	4	78	869	
% Lights	100	99.7	100.0	0.0	0.0	99.7	100.0	99.3	100.0	0.0	0.0	99.3	100.0	100.0	0.0	0.0	97.8	100	100	100	0	0	100	98.4	
% Stops	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Trucks	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Trucks Overhaul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Bicycles Overhaul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Turning Movement Peak Hour Data Plot (5:00 PM)



Latwood, OH
 181 Marlowe Ave
 Saturday, February 23, 2019
 Location: 41.481946, -
 81.735549



www.TSTData.com
 184 Baker Rd

Crestsville, Pennsylvania, United States 18320
 Saturday, February 23, 2019
 Site Code: 0222/2019
 Serving Transportation Professionals Since 1995

Count Name: Franklin
 Blvd/Marlowe Ave (Sat)
 Site Code: 0222/2019
 Start Date: 02/23/2019
 Page No: 1

Latwood, OH
 Franklin Blvd & Marlowe Ave
 Saturday, February 23, 2019
 Location: 41.481946, -
 81.735549



www.TSTData.com
 184 Baker Rd

Crestsville, Pennsylvania, United States 18320
 Saturday, February 23, 2019
 Site Code: 0222/2019
 Serving Transportation Professionals Since 1995

Count Name: Franklin
 Blvd/Marlowe Ave (Sat)
 Site Code: 0222/2019
 Start Date: 02/23/2019
 Page No: 2

Turning Movement Data

Start Time	Franklin Blvd Eastbound			Franklin Blvd Westbound			Marlowe Ave Northbound			Marlowe Ave Southbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
11:08 AM	1	87	0	0	58	0	0	40	0	0	0	0
11:12 AM	0	0	0	0	33	0	0	47	0	0	0	0
11:16 AM	4	69	0	0	78	0	0	77	1	0	0	0
11:20 AM	2	78	0	0	74	0	0	78	0	0	0	0
11:24 AM	4	87	0	0	71	0	0	78	0	0	0	0
11:28 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:32 AM	2	75	0	0	79	0	0	72	0	0	0	0
11:36 AM	6	74	0	0	84	0	0	76	0	0	0	0
11:40 AM	2	78	0	0	81	0	0	81	0	0	0	0
11:44 AM	7	73	0	0	77	0	0	82	0	0	0	0
11:48 AM	4	81	0	0	74	0	0	74	0	0	0	0
11:52 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:56 AM	3	82	0	0	81	0	0	77	0	0	0	0
12:00 PM	2	79	0	0	85	0	0	85	0	0	0	0
12:04 PM	5	83	0	0	88	0	0	88	0	0	0	0
12:08 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:12 PM	5	89	0	0	89	0	0	89	0	0	0	0
12:16 PM	2	81	0	0	83	0	0	83	0	0	0	0
12:20 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:24 PM	6	80	0	0	80	0	0	80	0	0	0	0
12:28 PM	1	80	0	0	86	0	0	86	0	0	0	0
12:32 PM	5	89	0	0	89	0	0	89	0	0	0	0
12:36 PM	5	99	0	0	99	0	0	99	0	0	0	0
12:40 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:44 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:48 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:52 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:56 PM	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
1:04 PM	0	0	0	0	0	0	0	0	0	0	0	0
1:08 PM	0	0	0	0	0	0	0	0	0	0	0	0
1:12 PM	0	0	0	0	0	0	0	0	0	0	0	0
1:16 PM	0	0	0	0	0	0	0	0	0	0	0	0
1:20 PM	0	0	0	0	0	0	0	0	0	0	0	0
1:24 PM	0	0	0	0	0	0	0	0	0	0	0	0
1:28 PM	0	0	0	0	0	0	0	0	0	0	0	0
1:32 PM	0	0	0	0	0	0	0	0	0	0	0	0
1:36 PM	0	0	0	0	0	0	0	0	0	0	0	0
1:40 PM	0	0	0	0	0	0	0	0	0	0	0	0
1:44 PM	0	0	0	0	0	0	0	0	0	0	0	0
1:48 PM	0	0	0	0	0	0	0	0	0	0	0	0
1:52 PM	0	0	0	0	0	0	0	0	0	0	0	0
1:56 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:04 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:08 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:12 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:16 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:20 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:24 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:28 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:32 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:36 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:40 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:44 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:48 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:52 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:56 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:04 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:08 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:12 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:16 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:20 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:24 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:28 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:32 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:36 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:40 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:44 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:48 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:52 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:56 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:04 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:08 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:12 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:16 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:20 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:24 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:28 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:32 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:36 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:40 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:44 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:48 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:52 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:56 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:04 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:08 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:12 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:16 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:20 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:24 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:28 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:32 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:36 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:40 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:44 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:48 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:52 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:56 PM	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
6:04 PM	0	0	0	0	0	0	0	0	0	0	0	0
6:08 PM	0	0	0	0	0	0	0	0	0	0	0	0
6:12 PM	0	0	0	0	0	0	0	0	0	0	0	0
6:16 PM	0	0	0	0	0	0	0	0	0	0	0	0
6:20 PM	0	0	0	0	0	0	0	0	0	0	0	0
6:24 PM	0	0	0	0	0	0	0	0	0	0	0	0
6:28 PM	0	0	0	0	0	0	0	0	0	0	0	0
6:32 PM	0	0	0	0	0	0	0	0	0	0	0	0
6:36 PM	0	0	0	0	0	0	0	0	0	0	0	0
6:40 PM	0	0	0	0	0	0	0	0	0	0	0	0
6:44 PM	0	0	0	0	0	0	0	0	0	0	0	0
6:48 PM	0	0	0	0	0	0	0	0	0	0	0	0
6:52 PM	0	0	0	0	0	0	0	0	0	0	0	0
6:56 PM	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
7:04 PM	0	0	0	0	0	0	0	0				

Lakewood, OH
Franklin Blvd & Marlowe Ave
Saturday, February 23, 2018
Location: 41.451845, -
81.755949

Count Name: Franklin
Bvd/Marlowe Ave (Sat)
Site Code: 02232019
Start Date: 02/23/2018
Page No: 3

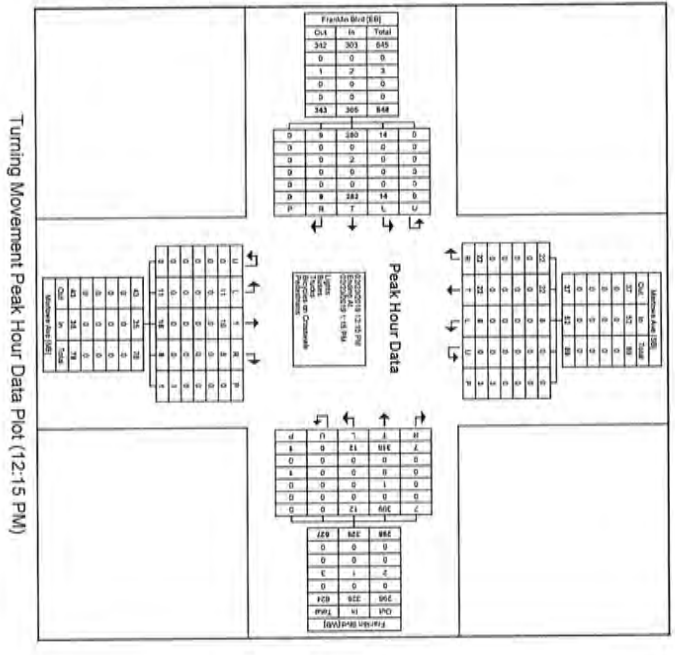
Lakewood, OH
Franklin Blvd & Marlowe Ave
Saturday, February 23, 2018
Location: 41.451845, -
81.755949

Count Name: Franklin
Bvd/Marlowe Ave (Sat)
Site Code: 02232019
Start Date: 02/23/2018
Page No: 4

Count Name: Franklin
Bvd/Marlowe Ave (Sat)
Site Code: 02232019
Start Date: 02/23/2018
Page No: 4

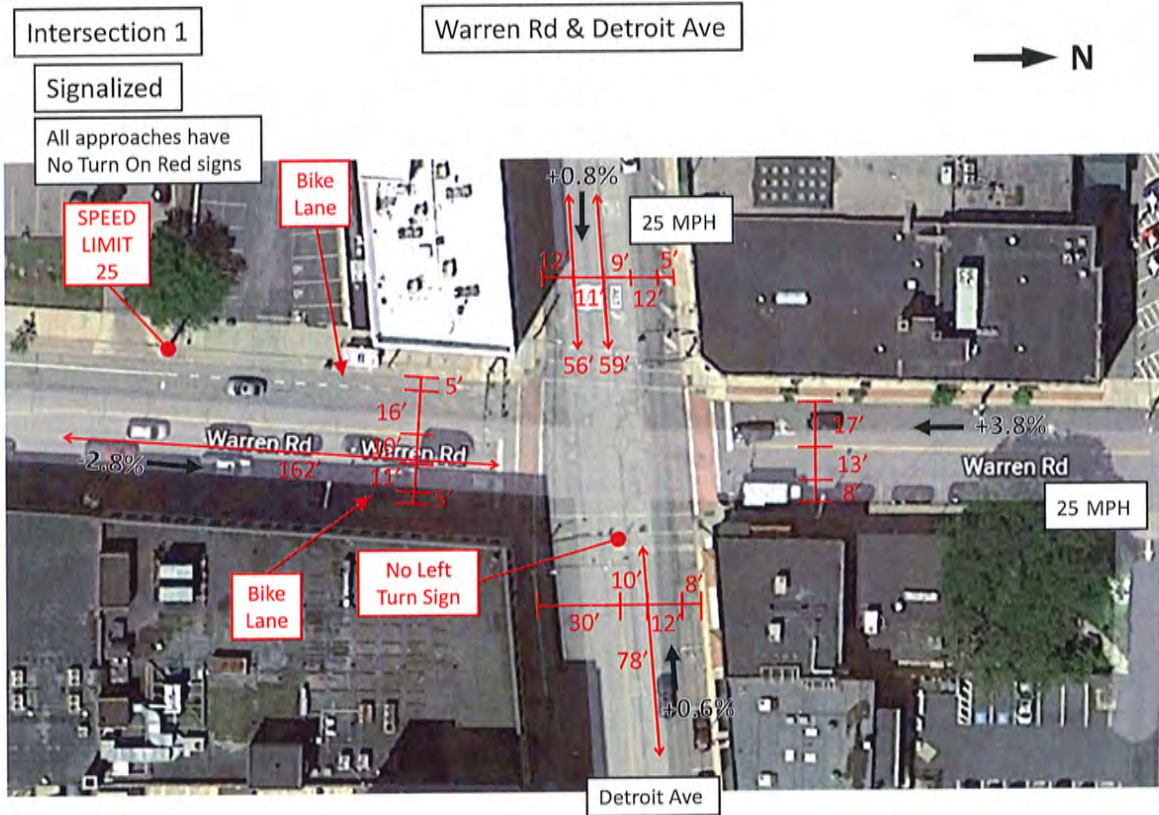
Turning Movement Peak Hour Data (12:15 PM)

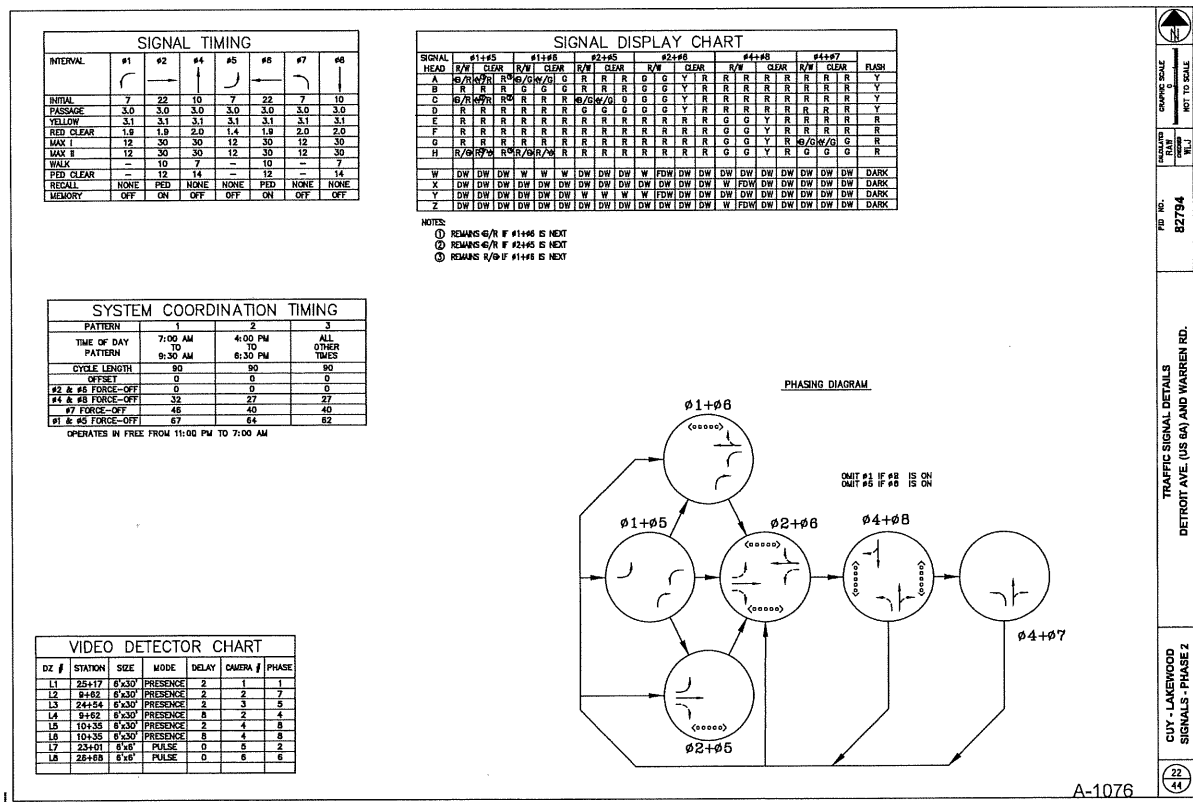
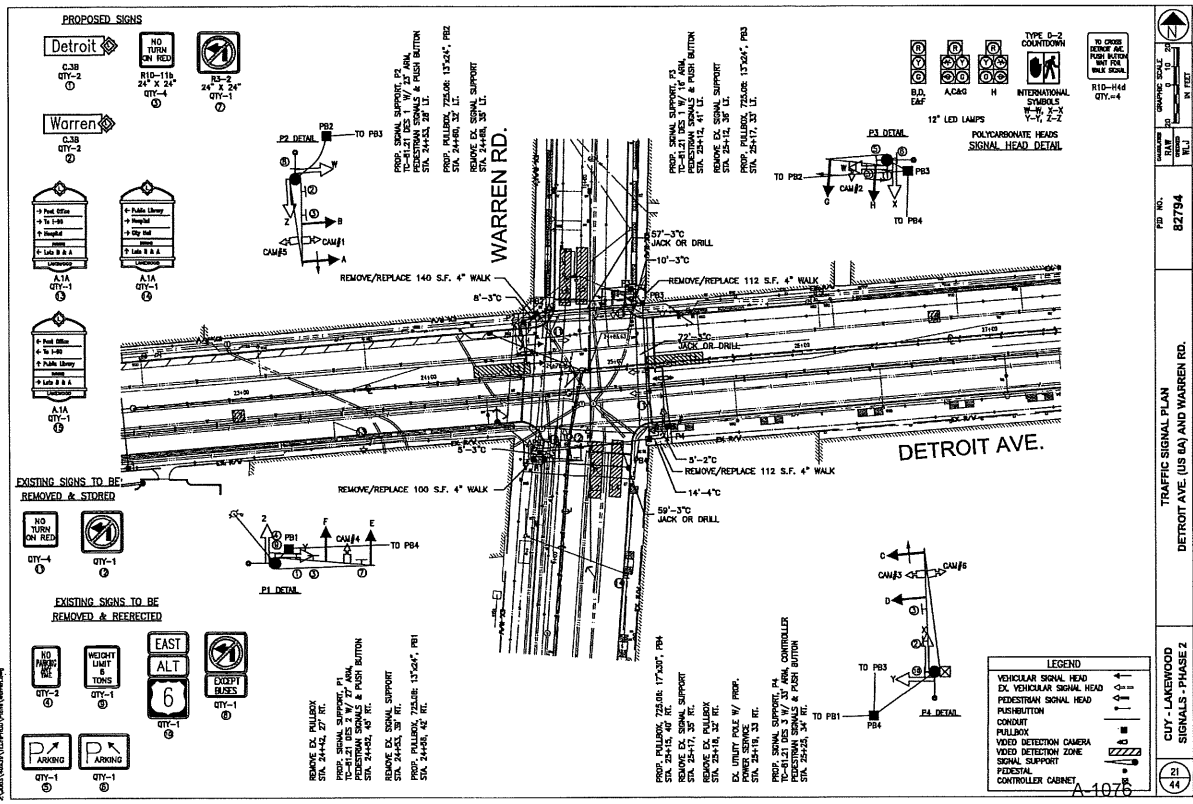
Start Time	Franklin Blvd Eastbound			Franklin Blvd Westbound			Marlowe Ave Northbound			Marlowe Ave Southbound		
	Lt	Thru	Right	Lt	Thru	Right	Lt	Thru	Right	Lt	Thru	Right
12:15 PM	6	24	4	0	0	84	4	79	2	0	0	0
12:30 PM	2	78	1	0	0	81	3	71	0	0	0	0
12:45 PM	5	42	4	0	0	71	3	88	2	0	0	0
1:00 PM	1	69	0	0	0	68	2	75	3	0	0	0
Total	14	209	9	0	0	205	12	210	7	0	0	0
Average %	4.6	82.5	3.0	0.0	0.0	42.3	3.7	43.0	1.2	0.0	0.0	0.0
% Left	14	209	9	0	0	205	12	209	7	0	0	0
% Thru	0	0	0	0	0	0	0	0	0	0	0	0
% Right	0	0	0	0	0	0	0	0	0	0	0	0
Total %	0.53	0.84	0.35	0.00	0.00	0.20	0.57	0.83	0.28	0.00	0.00	0.00
Production	0	0	0	0	0	0	0	0	0	0	0	0
% of Capacity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proportion	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Field Inventory Sketches / Signal Timings / Intersection Photo Log

APPENDIX - C





U + Key	KEY	12345678	FUNCTION	KEY	Ph 1	Ph 2	Ph 3	Ph 4	Ph 5	Ph 6	Ph 7	Ph 8
FUNCTION	0	2	Max I	0	12	30	0	30	30	30	12	30
Vehicle Recall	1	6	Max I/H/F/D/W	1	30	0	0	30	30	30	12	30
Red Recall	2	2	Walk	2	0	10	0	10	10	10	0	7
Red Lock	3	4	Flashing DIV	3	0	13	0	13	13	13	0	15
Yellow Lock	4	12	Max Initial	4	0	0	0	0	0	0	0	0
Perrits	5	2	Min Green	5	7	23	0	23	23	23	7	10
Lead Phases	6	1	TTR	6	0	0	0	0	0	0	0	0
Double Entry	7	4	TTR	7	0	0	0	0	0	0	0	0
Sequential Timing	8	8	Obsvrv Gap	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
StartUp Green	9	2	Passage	9	3.0	2.0	0.0	2.0	2.0	2.0	3.0	3.0
Overlap A	A	6	Min Gap	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Overlap B	B	6	Added Actuation	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Overlap C	C	3	Yellow	C	3.1	3.1	0.0	3.1	3.1	3.1	3.1	3.1
Overlap D	D	2	Red Clear	D	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Exclusive	E	0	Red Revert	E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Simultaneous Gap	F	0	Walk II	F	0	0	0	0	0	0	0	0

B + Plan + Key	KEY	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 6	Plan 7	Plan 8	Plan 9
FUNCTION	0	100	100	100	0	0	0	0	0	0
Cycle Length	1	74	67	72	0	0	0	0	0	0
Forecast Phase 1	2	0	0	0	0	0	0	0	0	0
Forecast Phase 2	3	0	0	0	0	0	0	0	0	0
Forecast Phase 3	4	59	54	58	0	0	0	0	0	0
Forecast Phase 4	5	72	67	71	0	0	0	0	0	0
Forecast Phase 5	6	0	0	0	0	0	0	0	0	0
Forecast Phase 6	7	58	54	58	0	0	0	0	0	0
Forecast Phase 7	8	45	43	45	0	0	0	0	0	0
Forecast Phase 8	9	49	49	49	0	0	0	0	0	0
Offset	A	82	87	82	0	0	0	0	0	0
Permissive Length	B	19	19	19	0	0	0	0	0	0
Max Dwell	C	33	33	33	0	0	0	0	0	0
Lead Phases	D	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678
Coord Phases	E	2	6	2	6	2	6	2	6	2
Perm 2 Phases	F	2	6	2	6	2	6	2	6	2
Min Recall	F	2	6	2	6	2	6	2	6	2



Detroit Ave – Eastbound Approach



Detroit Ave - Westbound Approach



Warren Rd - Northbound Approach

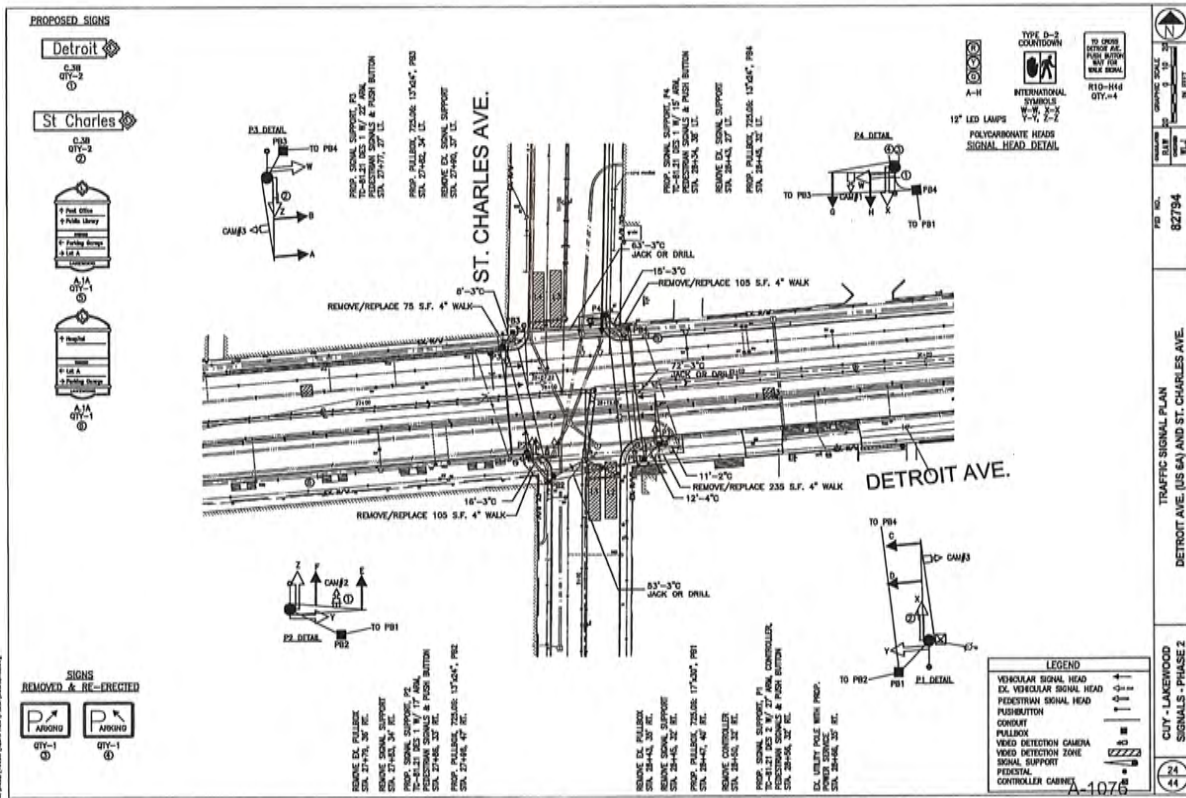
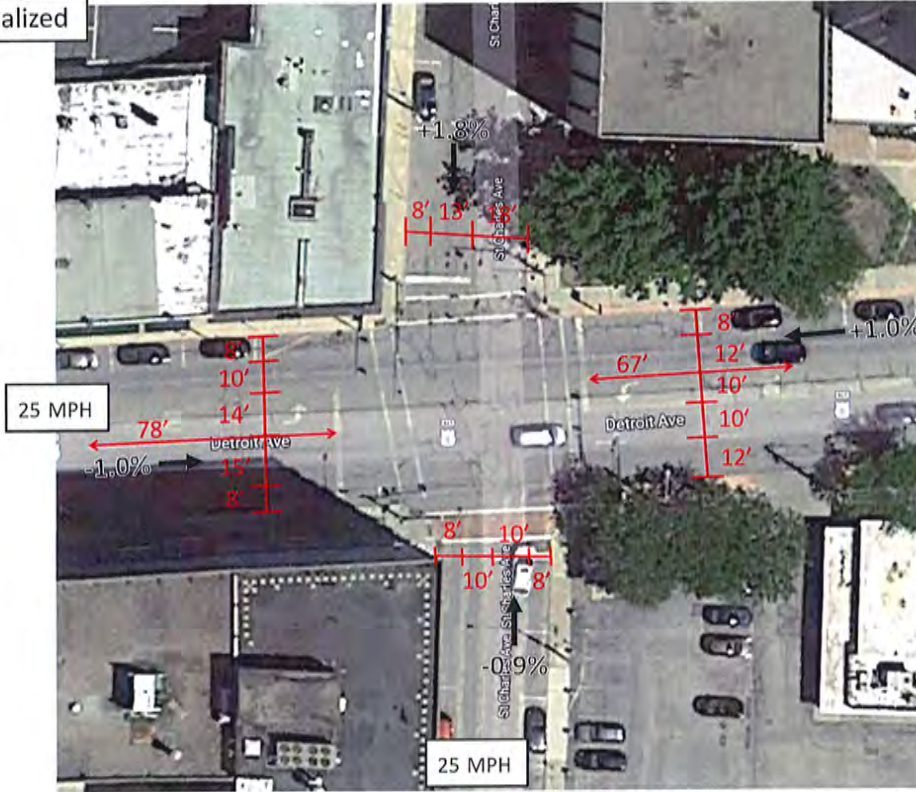


Warren Rd - Southbound Approach

Intersection 2

St Charles Ave & Detroit Ave

Signalized



B 1 Plan + Key	KEY	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 6	Plan 7	Plan 8	Plan 9
FUNCTION	0	100	100	100	0	0	0	0	0	0
Clear Length	0	0	0	0	0	0	0	0	0	0
Forceoff Phase 1	1	0	0	0	0	0	0	0	0	0
Forceoff Phase 2	2	0	0	0	0	0	0	0	0	0
Forceoff Phase 3	3	0	0	0	0	0	0	0	0	0
Forceoff Phase 4	4	48	45	47	0	0	0	0	0	0
Forceoff Phase 5	5	0	0	0	0	0	0	0	0	0
Forceoff Phase 6	6	0	0	0	0	0	0	0	0	0
Forceoff Phase 7	7	0	0	0	0	0	0	0	0	0
Forceoff Phase 8	8	48	45	47	0	0	0	0	0	0
Offset	9	97	50	55	0	0	0	0	0	0
Permissive Length	A	19	19	19	0	0	0	0	0	0
Max Dwell	B	33	33	33	0	0	0	0	0	0
Lead Phases	C	1 3 5 7	1 3 5 7	1 3 5 7	12345678	12345678	12345678	12345678	12345678	12345678
Coord Phases	D	2 6	2 6	2 6						
Perm 2 Phases	E									
Min Recall	F	2 5	2 5	2 5						



Detroit Ave - Eastbound Approach



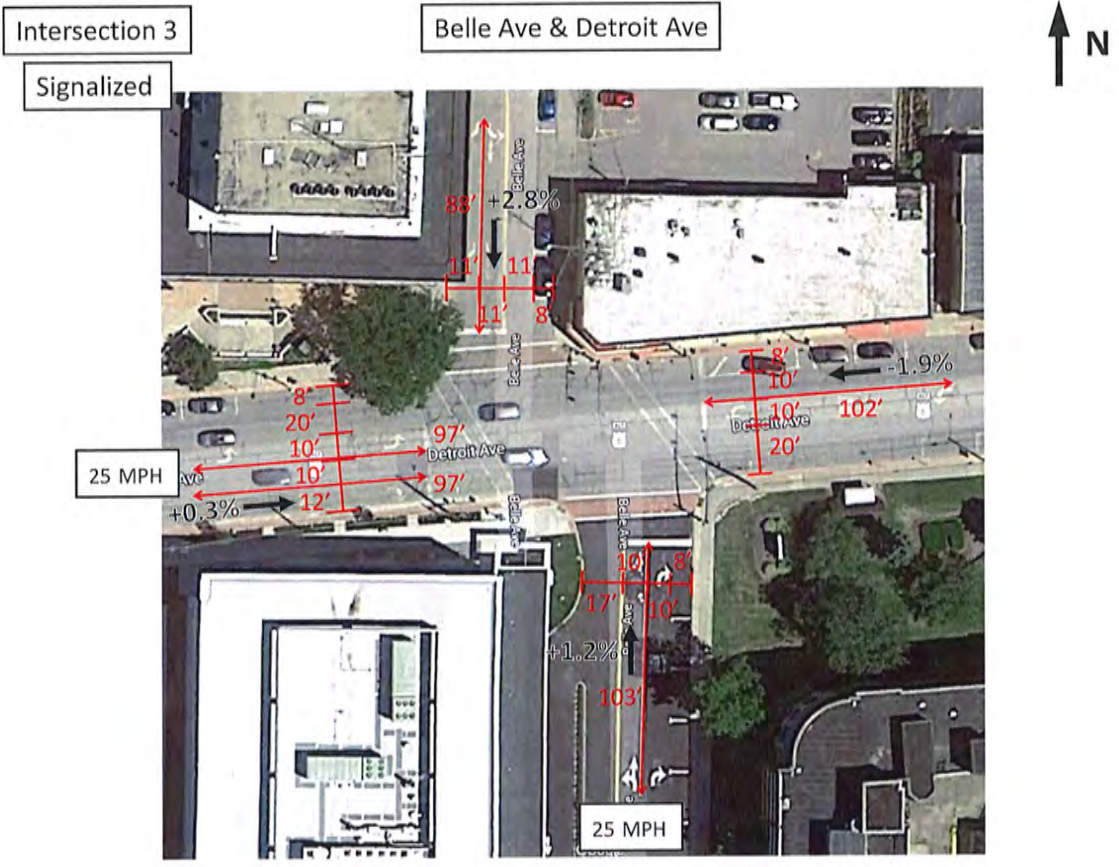
Detroit Ave - Westbound Approach

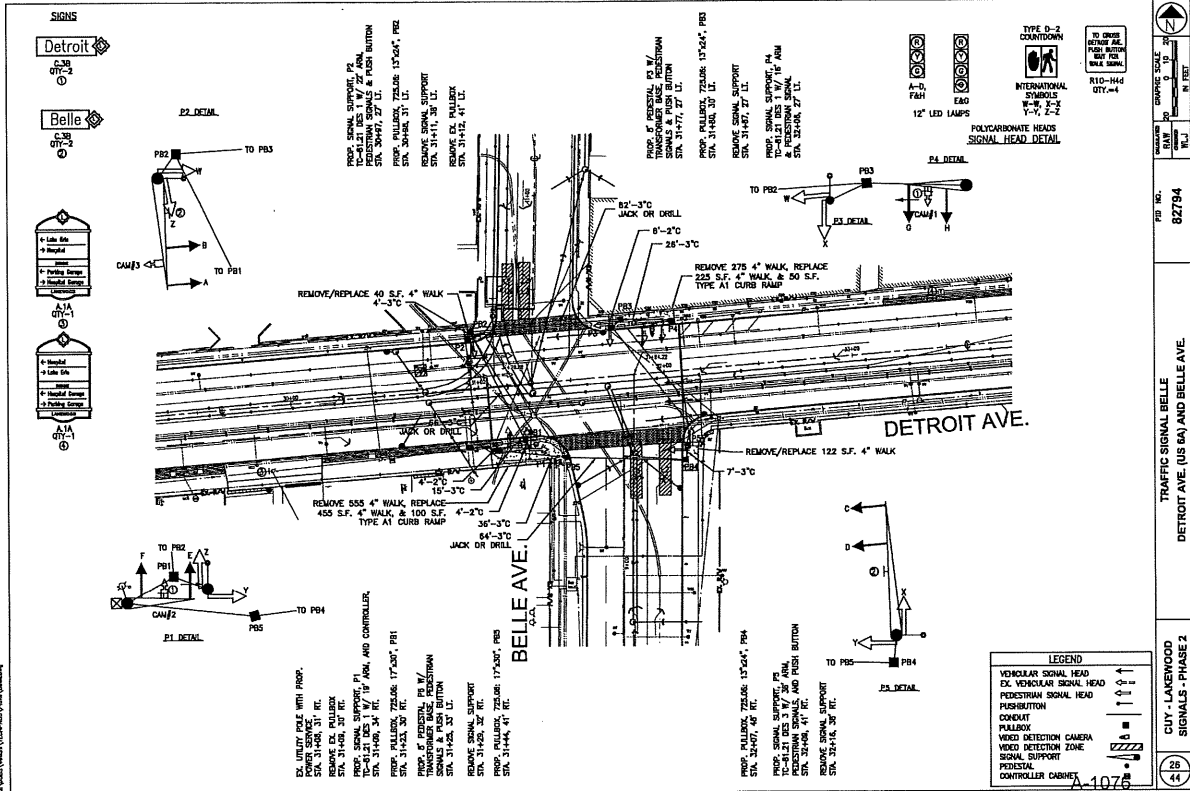


St Charles Ave - Northbound Approach



St Charles Ave - Southbound Approach





SIGNAL DISPLAY CHART

HEAD	#2-#8	#4	#6	#8	FLASH
A	G	G	R	R	R
B	G	G	R	R	R
C	G	G	R	R	R
D	G	G	R	R	R
E	R	R	G	G	G
F	R	R	G	G	G
G	R	R	G	G	G
H	R	R	G	G	G
W-W	W	FDW	DW	DW	DW
X-X	DW	DW	DW	DW	DW
Y-Y	W	FDW	DW	DW	DW
Z-Z	DW	DW	DW	DW	DW

PHASING DIAGRAM

SIGNAL TIMING

INTERVAL	#2	#4	#6	#8
INITIAL	27	10	27	10
PASSAGE	-	3.0	-	3.0
YELLOW	3.1	3.1	3.1	3.1
RED CLEAR	2.7	1.9	2.7	1.9
MAX 1	60	25	60	25
MAX 2	80	25	80	25
WALK	10	7	10	7
RED CLEAR	17	15	17	15
RECALL	PED	NONE	PED	NONE
MEMORY	ON	OFF	ON	OFF

SYSTEM COORDINATION TIMING

PATTERN	1	2	3
TIME OF DAY	7:00 AM TO 9:30 PM	4:00 PM TO 6:30 PM	ALL OTHER TIMES
CYCLE LENGTH	90	90	90
OFFSET	34	2	2
#2 & #6 FORCE-OFF	0	0	0
#4 FORCE-OFF	31	31	31
#8 FORCE-OFF	59	59	59

VIDEO DETECTOR CHART

DZ #	STATION	SIZE	MODE	DELAY	CAMERA #	PHASE
L1	8484	6'x30'	PRESENCE	2	1	4
L2	8484	6'x30'	PRESENCE	8	1	4
L3	10435	6'x30'	PRESENCE	2	2	8
L4	10435	6'x30'	PRESENCE	8	2	8
S4	30487	6'x8'	PRESENCE	0	3	SYS

INTERSECTION SUB-SUMMARY

ITEM	DESCRIPTION
1	50 FT. VEHICLE SIGNAL HEAD
2	50 FT. VEHICLE SIGNAL HEAD
3	50 FT. VEHICLE SIGNAL HEAD
4	50 FT. VEHICLE SIGNAL HEAD
5	50 FT. VEHICLE SIGNAL HEAD
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92	50 FT. VEHICLE SIGNAL HEAD
93	50 FT. VEHICLE SIGNAL HEAD
94	50 FT. VEHICLE SIGNAL HEAD
95	50 FT. VEHICLE SIGNAL HEAD
96	50 FT. VEHICLE SIGNAL HEAD
97	50 FT. VEHICLE SIGNAL HEAD
98	50 FT. VEHICLE SIGNAL HEAD
99	50 FT. VEHICLE SIGNAL HEAD
100	50 FT. VEHICLE SIGNAL HEAD

SIGNAL WIRING DIAGRAM

KEY:

- WIRELESS INTERCONNECT ANTENNA
- WIRELESS INTERCONNECT CABLE
- VIDEO DETECTION CABLE

NOTES:

- ALL PUSHBUTTONS SHALL BE WIRED WITH 2 CONDUCTOR LOOP LEAD-IN CABLE (2C LL).
- THE CONTRACTOR SHALL HOOK-UP THE DRAIN WIRE TO THE GROUND.

TRAFFIC SIGNAL DETAILS DETROIT AVE. (US 8A) AND BELLE AVE.

CITY - LAKENWOOD SIGNALS - PHASE 2

FILE NO. 82784

SCALE 1" = 10' (NOT TO SCALE)

DATE 28/4

February 26, 2019



Detroit Ave - Eastbound Approach



Detroit Ave - Westbound Approach

February 26, 2019



Belle Ave - Northbound Approach



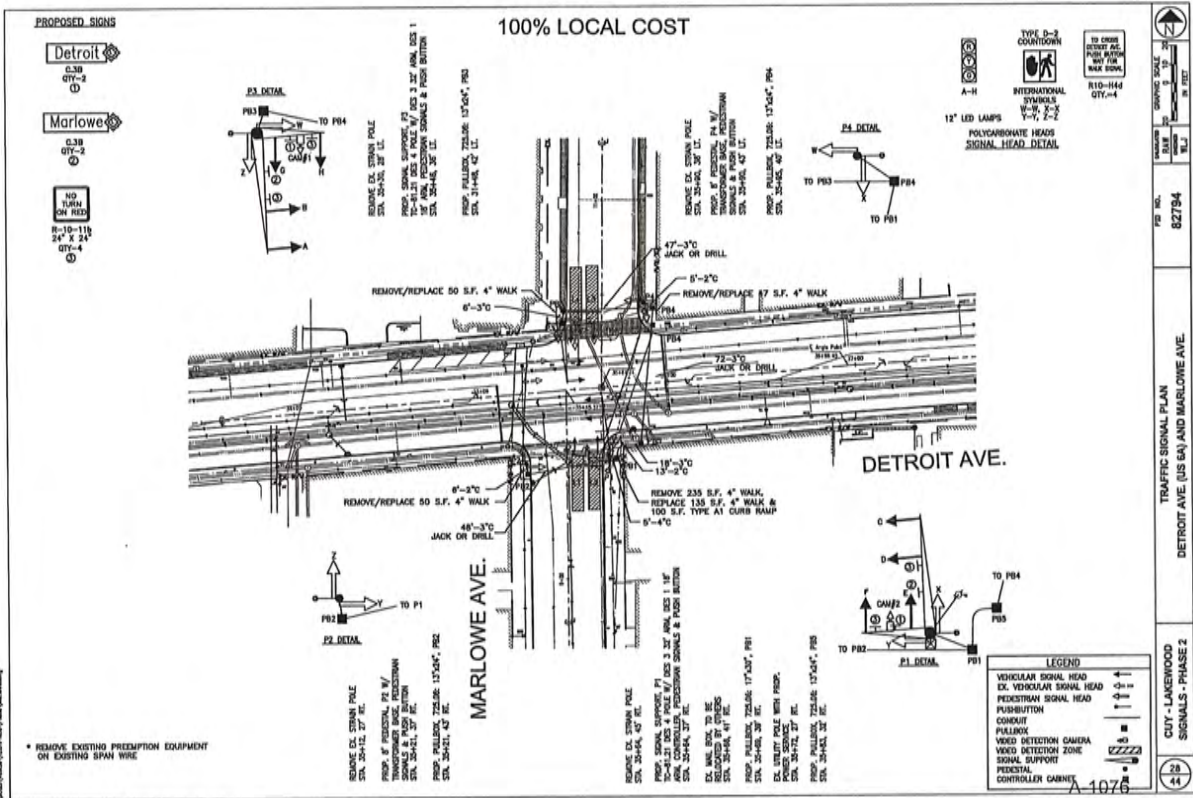
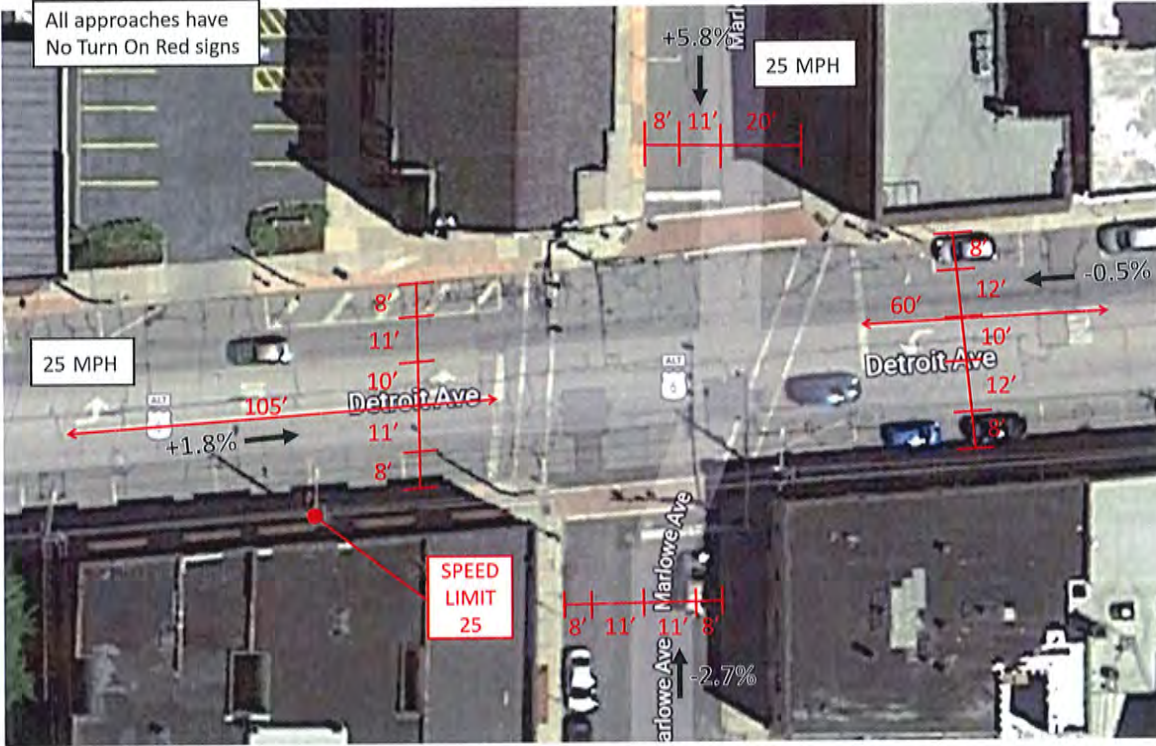
Belle Ave - Southbound Approach

Intersection 4

Marlowe Ave & Detroit Ave

Signalized

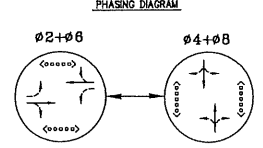
All approaches have
No Turn On Red signs



SIGNAL DISPLAY CHART

SIGNAL HEAD	#2+#8	#4+#6			
	R/W	CLR	R/W	CLR	FLASH
A	G	Y	R	R	R
B	G	Y	R	R	R
C	G	Y	R	R	R
D	G	Y	R	R	R
E	R	R	G	Y	R
F	R	R	G	Y	R
G	R	R	G	Y	R
H	R	R	G	Y	R
W-Y	W	FDW	DW	DW	DW
X-Y	DW	DW	DW	DW	DW
Y-Y	W	FDW	DW	DW	DW
Z-Z	DW	DW	DW	DW	DW

NOTES:
 1. SIGNALS TO BE FLASHED SHALL BE INDICATED BY A FLASH SYMBOL IN THE CHART.



INTERSECTION SUB-SUMMARY

QUANTITY	UNIT	DESCRIPTION
1	EA	TRAFFIC SIGNAL
1	EA	TRAFFIC SIGNAL CABINET
1	EA	TRAFFIC SIGNAL CONTROLLER
1	EA	TRAFFIC SIGNAL WIRING
1	EA	TRAFFIC SIGNAL MOUNTING
1	EA	TRAFFIC SIGNAL FOUNDATION

SIGNAL TIMING

INTERVAL	#2	#4	#6	#8
INITIAL	25	10	25	10
PASSAGE	-	3.0	-	3.0
YELLOW	3.1	3.1	3.1	3.1
RED CLEAR	2.0	2.0	2.0	2.0
MAX I	60	30	60	30
MAX II	60	30	60	30
WALK	12	12	12	12
RED CLEAR	12	15	12	15
RECALL	RED	NONE	RED	NONE
MEMORY	ON	OFF	ON	OFF

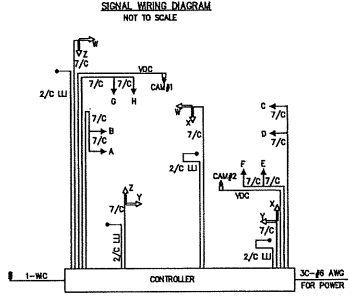
SYSTEM COORDINATION TIMING

PATTERN	1	2	3
TIME OF DAY PATTERN	7:00 AM TO 3:00 PM	3:00 PM TO 7:00 PM	ALL OTHER TIMES
CYCLE LENGTH	90	90	90
OFFSET	48	28	53
#2 & #8 FORCE-OFF	0	0	0
#4 & #6 FORCE-OFF	28	28	28

OPERATES IN FLASH FROM 11:00 PM TO 7:00 AM

VIDEO DETECTOR CHART

DZ #	STATION	SIZE	MODE	DELAY	CAMERA #	PHASE
L1	ø466	øx30	PRESSENCE	2	1	4
L2	ø466	øx30	PRESSENCE	8	1	4
L3	10x35	øx30	PRESSENCE	2	2	8
L4	10x35	øx30	PRESSENCE	8	2	8



KEY:
 W = WIRELESS INTERCONNECT ANTENNA
 MC = WIRELESS INTERCONNECT CABLE
 VDC = VIDEO DETECTOR CABLE

NOTE:
 ALL PUSHBUTTONS SHALL BE WIRED WITH 2 CONDUCTOR LOOP LEAD-IN CABLE (DC LL). THE CONTRACTOR SHALL HOOK-UP THE DRAWING WIRE TO THE GROUND.

TRAFFIC SIGNAL DETAILS
 DETROIT AVE. (US 66) AND MARLOWE AVE.
 CITY - LAKEWOOD SIGNALS - PHASE 2
 28 44

A-1076

FUNCTION	KEY	12345678	FUNCTION	KEY	Ph 1	Ph 2	Ph 3	Ph 4	Ph 5	Ph 6	Ph 7	Ph 8
0 + Key	Key	12345678	Phase + Key	Key	Ph 1	Ph 2	Ph 3	Ph 4	Ph 5	Ph 6	Ph 7	Ph 8
Vehicle Recall	0	2	Max I	0	0	60	0	40	0	60	0	40
Ped Recall	1	2	Max II/FFDW	1	0	60	0	40	0	60	0	40
Red Lock	2	0	Walk	2	0	12	0	12	0	12	0	12
Yellow Lock	3	2	Flash DW	3	0	11	0	18	0	11	0	18
Permit	4	2	Max Initial	4	0	0	0	0	0	0	0	0
Ped Phases	5	2	Min-Green	5	0	25	0	10	0	25	0	10
Lead Phases	6	1	TTR	6	0	0	0	0	0	0	0	0
Double Entry	7	4	TSR	7	0	0	0	0	0	0	0	0
Sequential Timing	8	8	TSR	8	0	0	0	0	0	0	0	0
Startup Green	9	2	Passage	9	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Startup Green	9	2	Passage	9	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Overlap A	A	0	Min Gap	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Overlap B	B	0	Added Actuation	B	0.0	3.1	0.0	3.1	0.0	3.1	0.0	3.1
Overlap C	C	0	Added Actuation	C	0.0	3.1	0.0	3.1	0.0	3.1	0.0	3.1
Overlap D	D	0	Red Clear	D	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Exclusive	E	0	Red Revert	E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Simultaneous Gap	F	0	Walk II	F	0	0	0	0	0	0	0	0

200018 - DETROIT @ Marlowe
 Table 1 - Timing and Functions Page 0
 3/6/2019 1:36 PM

February 26, 2019



Detroit Ave - Eastbound Approach



Detroit Ave - Westbound Approach

February 26, 2019



Marlowe Ave - Northbound Approach

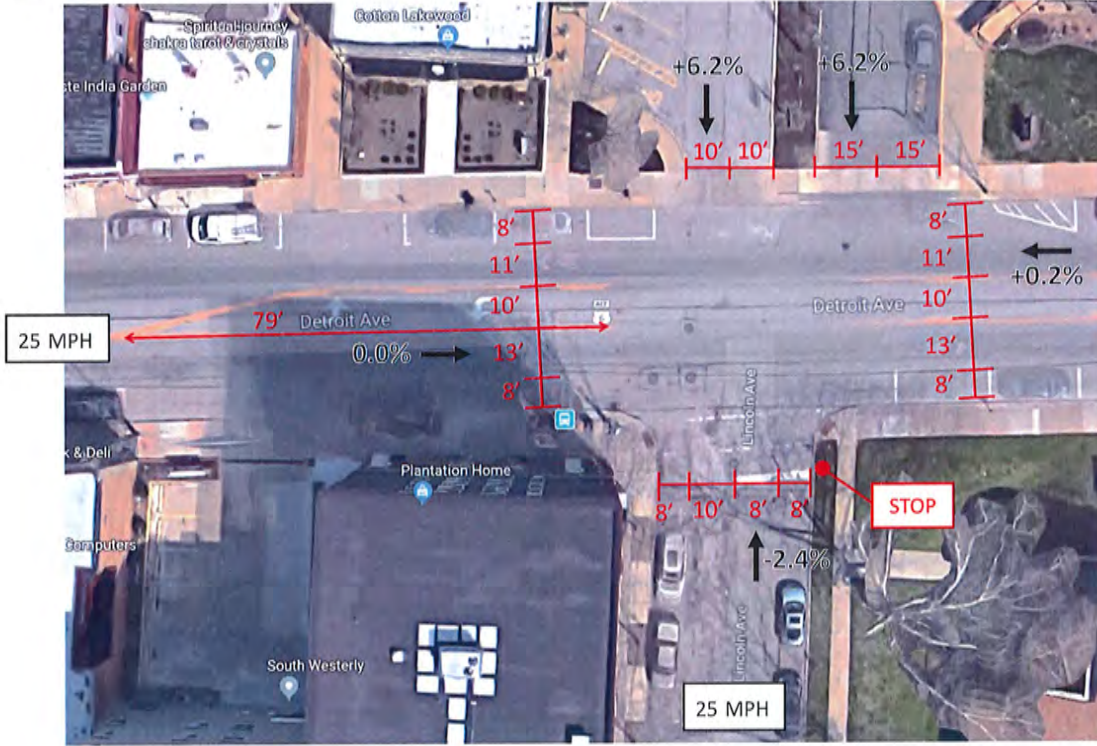


Marlowe Ave - Southbound Approach

Intersection 5

Lincoln Ave & Detroit Ave

Unsignalized



Detroit Ave - Westbound Approach



Detroit Ave - Eastbound Approach

Intersection Photo Log
One Lakewood TIS - Lincoln Ave & Detroit Ave

February 26, 2019



Lincoln Ave - Northbound Approach

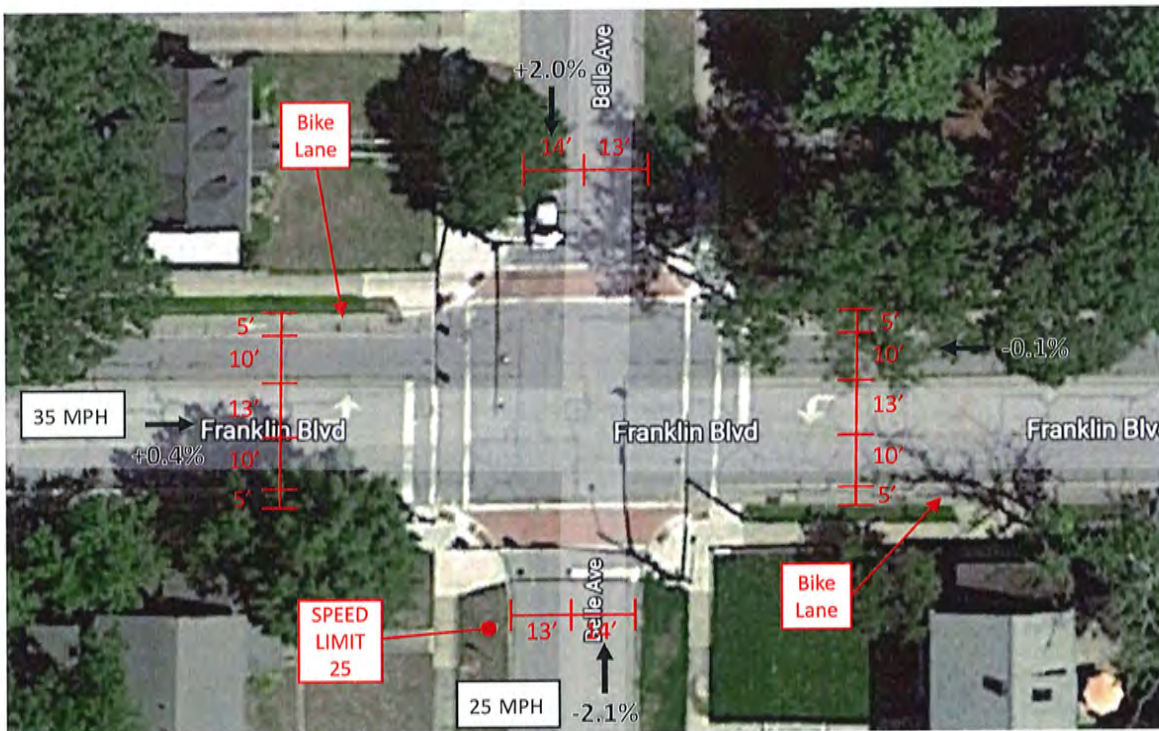


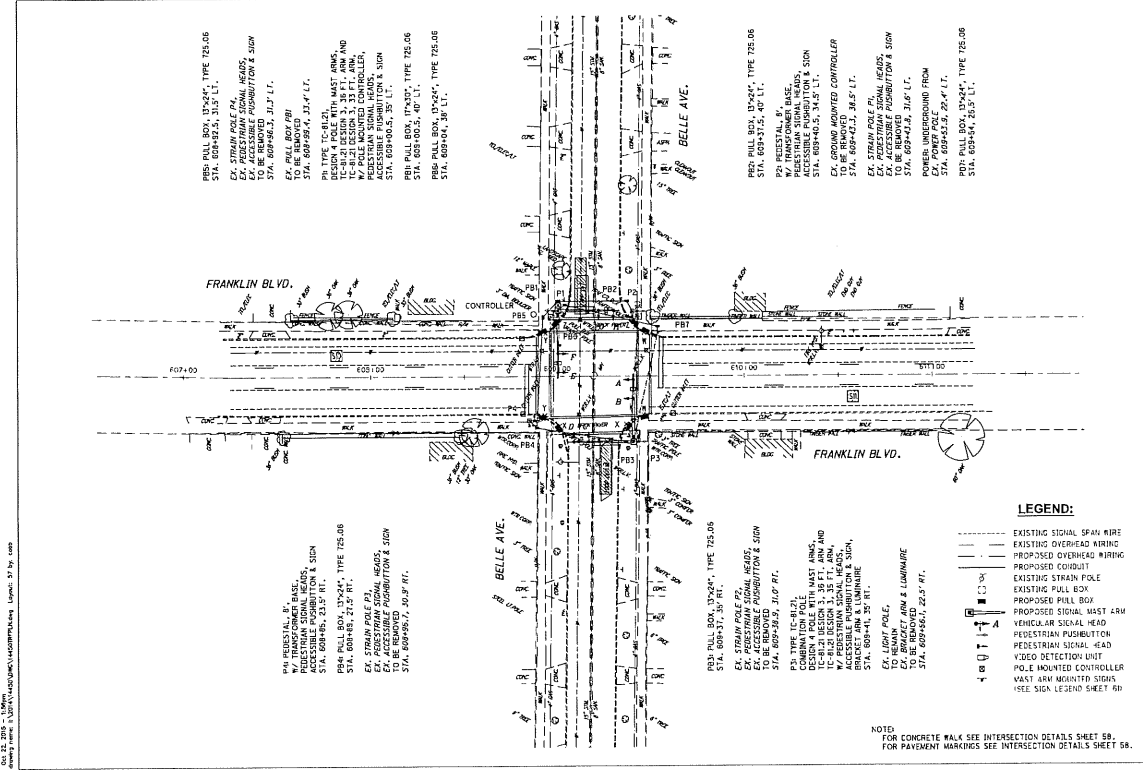
Lincoln Ave - Southbound Approach

Intersection 6

Signalized

Belle Ave & Franklin Blvd





TRAFFIC SIGNAL PLAN
FRANKLIN BOULEVARD & BELLE AVENUE
PHASE 3

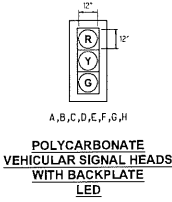
57
144

VIDEO DETECTOR CHART

DETECTOR ZONE	SIZE	MODE	DELAY	PHASE	INHIBITED DELAY	LOCATION 1st FRONT CROSSER	LOCATION 2nd FRONT CROSSER
L1	6x10	PRESENCE	8.0	f4	f4	609+09.7 3' LT	609+6.7 3' LT
L2	6x10	PRESENCE	8.0	f8	f8	609+23.3 2' RT	609+20.3 2' RT
SD	8x6	PULSE	-	SYSTEM	-	607+85 8.5 LT	607+85 14.5 LT
SH	8x6	PULSE	-	SYSTEM	-	610+15 6.5 RT	610+15 14.5 RT

SIGNAL TIMING CHART

FUNCTION	f2	f4	f8	f8
MINIMUM GREEN	18.5	5.5	18.5	5.5
VEHICLE EXTENSION	3.0	3.0	3.0	3.0
MAXIMUM GREEN	29.5	20.0	29.5	20.0
PEDESTRIAN WALK	1.0	1.0	1.0	1.0
PEDESTRIAN CLEARANCE	14.0	13.0	14.0	13.0
VEHICLE YELLOW CLEARANCE	3.5	3.0	3.5	3.0
VEHICLE ALL RED CLEARANCE	2.0	2.5	2.0	2.5
RECALL	MIN	MIN	MIN	NONE
MEMORY	OFF	OFF	OFF	OFF



FIELD WIRING HOOK-UP CHART

SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH	SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH
A	R	f2 - R	f	E	R	f8 - R	Y
	Y	f2 - Y	f	E	Y	f8 - Y	Y
	G	f2 - G	f	E	G	f8 - G	Y
B	R	f2 - R	f	F	R	f8 - R	Y
	Y	f2 - Y	f	F	Y	f8 - Y	Y
	G	f2 - G	f	F	G	f8 - G	Y
C	R	f4 - R	R	G	R	f8 - R	R
	Y	f4 - Y	R	G	Y	f8 - Y	R
	G	f4 - G	R	G	G	f8 - G	R
D	R	f4 - R	R	H	R	f8 - R	R
	Y	f4 - Y	R	H	Y	f8 - Y	R
	G	f4 - G	R	H	G	f8 - G	R
N-W	WALK	f4 - W	OUT	X-X	WALK	f8 - W	OUT
	DONT WALK	f4 - W	OUT	SOUTH	DONT WALK	f8 - W	OUT
	NORTH	f4 - W	OUT	NORTH	DONT WALK	f8 - W	OUT

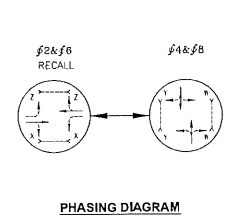
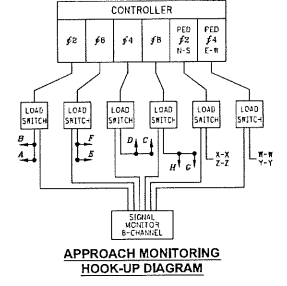
* ONLY UPON PEDESTRIAN PUSH BUTTON ACTUATION.

COORDINATION TIMING

FRANKLIN BOULEVARD & BELLE AVENUE

TIME OF DAY	AV. PEAK	NOON	OFF. P.M.	ALL OTHER TIMES
MON-FRI	7:00 AM	1:00 PM	7:00 PM	7:00 PM
SAT	7:00 AM	3:00 PM	7:00 PM	7:00 PM
SUN	7:00 AM	7:00 PM	7:00 PM	7:00 PM
CYCLE LENGTH	100 SEC.	100 SEC.	100 SEC.	FREE
PHASE 2 & 8 SPLIT	65 SEC.	58R	65 SEC.	58R
PHASE 4 & 8 SPLIT	45 SEC.	10R	45 SEC.	10R
OFFSET*	32 SEC.	28R	12 SEC.	28R

* OFFSETS MEASURED FROM MASTER CONTROLLER AT FRANKLIN/DANTS.



TRAFFIC SIGNAL DETAILS
FRANKLIN BOULEVARD & BELLE AVENUE
PHASE 3

60
144

February 26, 2019



Franklin Blvd - Eastbound Approach



Franklin Blvd - Westbound Approach

February 26, 2019



Belle Ave - Northbound Approach

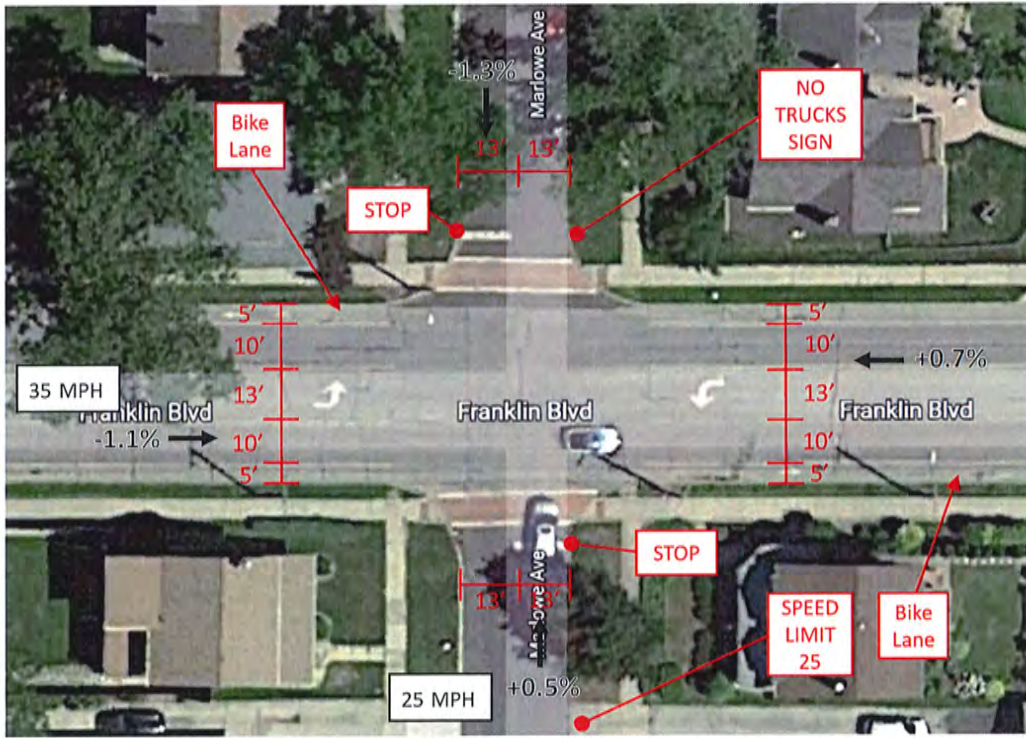


Belle Ave - Southbound Approach

Intersection 7

Marlowe Ave & Franklin Blvd

Unsignalized



Franklin Blvd - Westbound Approach



Franklin Blvd - Eastbound Approach

Intersection Photo Log
One Lakewood TIS - Marlowe Ave & Franklin Blvd

February 26, 2019



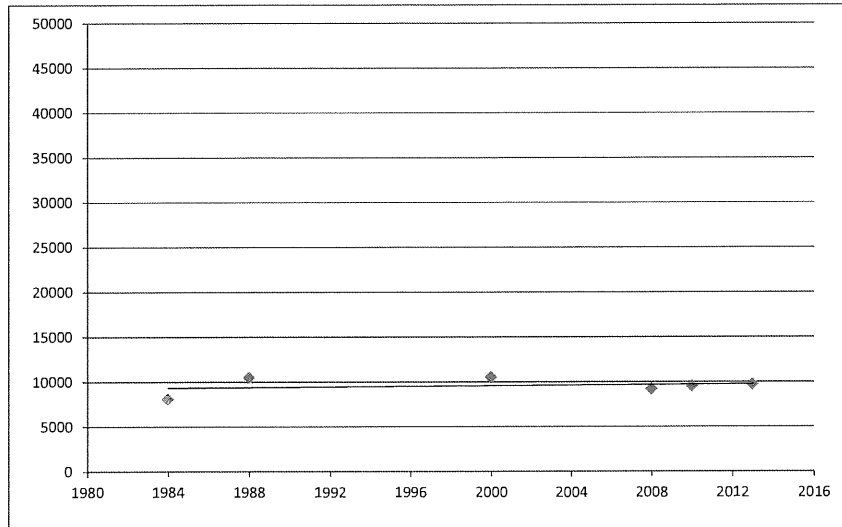
Marlowe Ave - Northbound Approach



Marlowe Ave - Southbound Approach

APPENDIX - D
Historical Growth Trends for Detroit Avenue

Roadway Section	"Detroit Avenue" - Historical Traffic Volumes						Growth Rate
	1984	1988	2000	2008	2010	2013	
Detroit Avenue	8090	10480	10500	9200	9520	9710	
<i>Trendline</i>	9333	9394	9576	9697	9727	9773	0.16%



APPENDIX - E
Level of Service Definitions

Table 1
Level of Service Criteria – Signalized Intersection

Level of Service	Description of Expected Traffic Delay	Signalized Stop Delay (sec/veh)
A	Little or None	≤ 10
B	Short	> 10 and ≤ 20
C	Average	> 20 and ≤ 35
D	Long	> 35 and ≤ 55
E	Very Long	> 55 and ≤ 80
F	Excessive	> 80

Source: Highway Capacity Manual (HCM), (2000 Edition).

Table 2
Level of Service Criteria – Unsignalized Intersection

Level of Service	Description of Expected Traffic Delay	Unsignalized Average Total Delay (sec/veh)
A	Little or None	≤ 10
B	Short	> 10 and ≤ 15
C	Average	> 15 and ≤ 25
D	Long	> 25 and ≤ 35
E	Very Long	> 35 and ≤ 50
F	Excessive	> 50

Source: Highway Capacity Manual (HCM), (2000 Edition).

The LOS criteria for TWSC intersections are somewhat different from the criteria used for signalized intersections primarily because different transportation facilities create different driver perceptions. The expectation is that a signalized intersection is designed to carry higher traffic volumes and experience greater delay than an unsignalized intersection.

APPENDIX – F

Weighted Average Calculations



Project: One Lakewood Place
Date: 4/16/2019

6000 Lombardo Center, Suite 210 Cleveland OH, 44131
T: 216.328.3300 F: 216.328.3301
Calculated by: Langan

2023 No Build - AM Peak Hour Franklin Blvd & Marlowe Ave													
		Eastbound			Westbound			Northbound			Southbound		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2019 Existing	Existing Volume	15	342	6	5	280	7	9	31	7	5	17	13
	PHF	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
	HV (%)	0%	2%	0%	0%	0%	29%	0%	3%	0%	2%	12%	0%
Hospital Conditions	Hospital Trips		14			34	17		17		7	7	
	PHF		0.9			0.9	0.9		0.9		0.9	0.9	
	HV (%)		2%			2%	2%		2%		2%	2%	
Regional Growth	2023 Growth Volume	0	3	0	0	2	0	0	0	0	0	0	0
2023 No Build	No Build Volume	15	359	6	5	316	24	9	48	7	12	24	13
	PHF	0.65	0.65	0.65	0.65	0.67	0.83	0.65	0.74	0.65	0.80	0.72	0.65
	Weighted HV (%)	0%	2%	0%	0%	0%	10%	0%	3%	0%	2%	9%	0%
Total 2023 No Build AM Volume		838											
2023 No Build AM Weighted PHF		0.67											



Project: One Lakewood Place
Date: 4/16/2019

6000 Lombardo Center, Suite 210 Cleveland OH, 44131
T: 216.328.3300 F: 216.328.3301
Calculated by: Langan

2023 No Build - PM Peak Hour Franklin Blvd & Marlowe Ave													
		Eastbound			Westbound			Northbound			Southbound		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2019 Existing	Existing Volume	16	320	6	19	386	7	7	25	10	12	40	23
	PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
	HV (%)	0%	0%	0%	0%	1%	0%	0%	4%	0%	0%	0%	0%
Hospital Conditions	Hospital Trips		30			12	6		6		15	15	
	PHF		0.9			0.9	0.9		0.9		0.9	0.9	
	HV (%)		2%			2%	2%		2%		2%	2%	
Regional Growth	2023 Growth Volume	0	3	0	0	3	0	0	0	0	0	0	0
2023 No Build	No Build Volume	16	353	6	19	401	13	7	31	10	27	55	23
	PHF	0.93	0.92	0.93	0.93	0.92	0.92	0.93	0.92	0.93	0.91	0.92	0.93
	Weighted HV (%)	0%	0%	0%	0%	1%	1%	0%	4%	0%	1%	1%	0%
Total 2023 No Build PM Volume		961											
2023 No Build PM Weighted PHF		0.92											



Project: One Lakewood Place
Date: 4/16/2019

6000 Lombardo Center, Suite 210 Cleveland OH, 44131
T: 216.328.3300 F: 216.328.3301
Calculated by: Langan

2023 No Build - SAT Peak Hour Franklin Blvd & Marlowe Ave													
		Eastbound			Westbound			Northbound			Southbound		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2019 Existing	Existing Volume	14	282	9	12	310	7	11	16	8	8	22	22
	PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
	HV (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Hospital Conditions	Hospital Trips		26			24	12		12		13	13	
	PHF		0.9			0.9	0.9		0.9		0.9	0.9	
	HV (%)		2%			2%	2%		2%		2%	2%	
Regional Growth	2023 Growth Volume	0	2	0	0	2	0	0	0	0	0	0	0
2023 No Build	No Build Volume	14	310	9	12	336	19	11	28	8	21	35	22
	PHF	0.95	0.94	0.95	0.95	0.94	0.92	0.95	0.93	0.95	0.92	0.93	0.95
	Weighted HV (%)	0%	1%	0%	0%	0%	1%	0%	1%	0%	1%	1%	0%

Total 2023 No Build SAT Volume	825
2023 No Build SAT Weighted PHF	0.94



Project: One Lakewood Place
Date: 4/16/2019

6000 Lombardo Center, Suite 210 Cleveland OH, 44131
T: 216.328.3300 F: 216.328.3301
Calculated by: Langan

2023 Build - AM Peak Hour Franklin Blvd & Marlowe Ave													
		Eastbound			Westbound			Northbound			Southbound		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2019 Existing	Existing Volume	15	342	6	5	280	7	9	31	7	5	17	13
	PHF	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
	HV (%)	0%	2%	0%	0%	0%	29%	0%	3%	0%	2%	12%	0%
Proposed Conditions	Total Site Trips		18				38		13		9	9	
	PHF		0.9				0.9		0.9		0.9	0.9	
	HV (%)		2%				2%		2%		2%	2%	
Regional Growth	2023 Growth Volume	0	3	0	0	2	0	0	0	0	0	0	0
2023 Build	No Build Volume	15	363	6	5	282	45	9	44	7	14	26	13
	PHF	0.65	0.66	0.65	0.65	0.65	0.86	0.65	0.72	0.65	0.81	0.74	0.65
	Weighted HV (%)	0%	2%	0%	0%	0%	6%	0%	3%	0%	2%	9%	0%

Total 2023 Build AM Volume	829
2023 Build AM Weighted PHF	0.67



Project: One Lakewood Place
Date: 4/16/2019

6000 Lombardo Center, Suite 210 Cleveland OH, 44131
T: 216.328.3300 F: 216.328.3301
Calculated by: Langan

2023 Build - PM Peak Hour Franklin Blvd & Marlowe Ave													
		Eastbound			Westbound			Northbound			Southbound		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2019 Existing	Existing Volume	16	320	6	19	386	7	7	25	10	12	40	23
	PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
	HV (%)	0%	0%	0%	0%	1%	0%	0%	4%	0%	0%	0%	0%
Proposed Conditions	Total Site Trips		28				36		12		14	14	
	PHF		0.9				0.9		0.9		0.9	0.9	
	HV (%)		2%				2%		2%		2%	2%	
Regional Growth	2023 Growth Volume	0	3	0	0	3	0	0	0	0	0	0	0
2023 Build	No Build Volume	16	351	6	19	389	43	7	37	10	26	54	23
	PHF	0.93	0.92	0.93	0.93	0.92	0.90	0.93	0.92	0.93	0.91	0.92	0.93
	Weighted HV (%)	0%	0%	0%	0%	1%	2%	0%	3%	0%	1%	1%	0%

Total 2023 Build PM Volume	981
2023 Build PM Weighted PHF	0.92



Project: One Lakewood Place
Date: 4/16/2019

6000 Lombardo Center, Suite 210 Cleveland OH, 44131
T: 216.328.3300 F: 216.328.3301
Calculated by: Langan

2023 Build - SAT Peak Hour Franklin Blvd & Marlowe Ave													
		Eastbound			Westbound			Northbound			Southbound		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2019 Existing	Existing Volume	14	282	9	12	310	7	11	16	8	8	22	22
	PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
	HV (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Proposed Conditions	Total Site Trips		25				42		14		12	12	
	PHF		0.9				0.9		0.9		0.9	0.9	
	HV (%)		2%				2%		2%		2%	2%	
Regional Growth	2023 Growth Volume	0	2	0	0	2	0	0	0	0	0	0	0
2023 Build	No Build Volume	14	309	9	12	312	49	11	30	8	20	34	22
	PHF	0.95	0.94	0.95	0.95	0.94	0.91	0.95	0.93	0.95	0.92	0.93	0.95
	Weighted HV (%)	0%	1%	0%	0%	0%	2%	0%	1%	0%	1%	1%	0%

Total 2023 Build SAT Volume	830
2023 Build SAT Weighted PHF	0.94

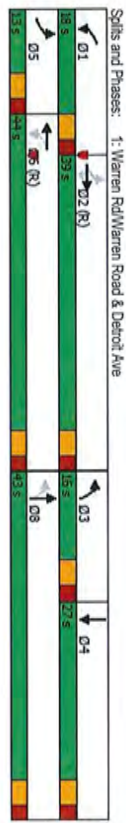
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	6	219	97	114	159	10	77	110	134	0	159	6
Future Volume (vph)	6	219	97	114	159	10	77	110	134	0	159	6
Ideal Flow (veh/pl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	9	11	12	10	12	12	10	11	11	16	16	16
Grade (%)	1%	1%	1%	1%	1%	1%	1%	-3%	0%	0%	0%	0%
Storage Length (ft)	60	60	80	80	80	0	160	0	0	0	0	0
Storage Lanes	1	1	1	1	1	0	1	0	0	0	0	0
Taper Length (ft)	25	1774	1575	1643	1770	0	1613	1639	0	0	2057	0
Satd. Flow (prot)	0.634	1774	1575	1643	1770	0	1613	1639	0	0	2057	0
Flt Permitted	1085	1774	1494	850	1770	0	551	1639	0	0	2057	0
Satd. Flow (perm)	1085	1774	1494	850	1770	0	551	1639	0	0	2057	0
Right Turn on Red	No	No	No	No	No	No	No	No	No	No	No	No
Satd. Flow (RTOR)	No	No	No	No	No	No	No	No	No	No	No	No
Link Speed (mph)	25	351	252	252	252	25	25	341	332	25	332	25
Link Distance (ft)	351	252	252	252	252	25	25	341	332	25	332	25
Travel Time (s)	9.6	6.9	6.9	6.9	6.9	9.3	9.3	9.3	9.3	9.1	9.1	9.1
Contd. Peds. (ft/hr)	13	22	22	22	22	13	9	10	10	10	10	10
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	3%	2%	2%	2%	6%	0%	6%	2%	3%	0%	0%
Shared Lane Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Lane Group Flow (vph)	7	255	113	133	197	0	90	284	0	0	192	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	pm+pt	NA	NA	NA	NA
Protected Passes	5	2	2	5	5	1	6	3	8	4	4	4
Permitted Passes	2	2	2	2	2	2	2	2	2	2	2	2
Total Spd. (s)	13.0	39.0	39.0	18.0	44.0	16.0	43.0	27.0	27.0	27.0	27.0	27.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Act Effct Green (s)	53.3	47.5	47.5	61.8	59.5	28.0	28.0	15.6	15.6	15.6	15.6	15.6
Actuated G/C Ratio	0.53	0.48	0.48	0.62	0.60	0.28	0.28	0.16	0.16	0.16	0.16	0.16
v/c Ratio	0.01	0.30	0.16	0.22	0.19	0.25	0.62	0.60	0.60	0.60	0.60	0.60
Control Delay	10.8	20.2	19.1	10.7	12.6	28.7	36.2	47.1	47.1	47.1	47.1	47.1
Queue Delay	0.0	0.0	0.0	1.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.8	20.2	19.1	11.7	13.8	28.7	36.2	47.1	47.1	47.1	47.1	47.1
LOS	B	C	B	B	B	C	D	D	D	D	D	D
Approach Delay	19.7	19.7	19.7	12.9	12.9	34.4	47.1	47.1	47.1	47.1	47.1	47.1
Approach LOS	B	B	B	B	B	C	D	D	D	D	D	D
Queue Length 50th (ft)	2	89	40	34	52	4.3	15.5	11.7	11.7	11.7	11.7	11.7
Queue Length 95th (ft)	8	183	88	70	127	69	200	170	170	170	170	170
Internal Link Dist. (ft)	271	271	271	172	172	261	261	261	261	261	261	261
Turn Bay Length (ft)	60	842	709	80	80	160	160	160	160	160	160	160
Base Capacity (vph)	634	842	709	627	1053	273	621	450	450	450	450	450
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.30	0.16	0.42	0.49	0.33	0.46	0.43	0.43	0.43	0.43	0.43

Intersection Summary
 Area Type: Other
 Cycle Length: 100

2019 Existing Capacity Analysis
 APPENDIX - G

Lanes, Volumes, Timings
 1: Warren Rd/Warren Road & Detroit Ave
 One Lakewood Place
 2019 Existing - AM Peak Hour

Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2 EBTL and 6WBTL Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.62
 Intersection Signal Delay: 28.4
 Intersection LOS: C
 Intersection Capacity Utilization: 47.9%
 ICU Level of Service: A
 Analysis Period (min): 15

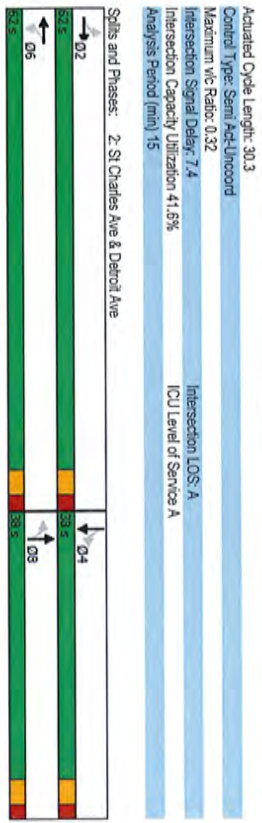


Lanes, Volumes, Timings
 2: St Charles Ave & Detroit Ave
 One Lakewood Place
 2019 Existing - AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	65	280	26	31	24	13	13	54	40	9	36	28
Future Volume (vph)	65	280	26	31	24	13	13	54	40	9	36	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	15	15	10	12	12	10	10	10	13	13	13
Grade (%)	-1%	-1%	-1%	1%	1%	1%	-1%	-1%	0	0	0	0
Storage Length (ft)	80	0	0	70	0	0	0	0	0	0	0	0
Storage Lanes	1	0	0	1	0	0	0	0	0	0	0	0
Tapel Length (ft)	25	0	0	25	0	0	0	0	0	0	0	0
Satd. Flow (prot)	1935	1968	0	1627	1679	0	0	1603	0	0	1805	0
RT Permitted	0.729	1968	0	0.550	1679	0	0	0.943	0	0	0.938	0
Satd. Flow (Perm)	1453	1968	0	952	1679	0	0	1518	0	0	1697	0
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Link Speed (mph)	8	25	25	15	25	25	25	25	25	25	25	25
Link Distance (ft)	252	252	252	272	272	272	272	272	272	272	272	272
Travel Time (s)	6.9	6.9	6.9	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
Confl. Peds. (#/hr)	18	15	15	15	15	18	12	12	41	41	41	12
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	5%	4%	3%	4%	8%	8%	4%	0%	0%	0%	0%
Shared Lane Traffic (%)	76	332	0	36	43	0	0	125	0	0	85	0
Lane Group Flow (vph)	Perm	NA	Perm	NA	NA	Perm	NA	NA	Perm	NA	NA	Perm
Turn Type	Perm	NA	Perm	NA	NA	Perm	NA	NA	Perm	NA	NA	Perm
Protected Phases	2	2	2	6	6	6	8	8	4	4	4	4
Permitted Phases	2	2	2	6	6	6	8	8	4	4	4	4
Total Split (s)	62.0	62.0	62.0	62.0	62.0	62.0	38.0	38.0	38.0	38.0	38.0	38.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Act Effect Green (s)	16.0	16.0	16.0	16.0	16.0	16.0	7.5	7.5	7.4	7.4	7.4	7.4
Actuated g/c Ratio	0.53	0.53	0.53	0.53	0.53	0.53	0.25	0.25	0.24	0.24	0.24	0.24
v/c Ratio	0.10	0.32	0.10	0.07	0.05	0.07	0.31	0.31	0.19	0.19	0.19	0.19
Control Delay	6.3	7.2	6.3	6.4	4.7	6.3	9.9	9.9	7.7	7.7	7.7	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.3	7.2	6.3	6.4	4.7	6.3	9.9	9.9	7.7	7.7	7.7	7.7
LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Delay	7.0	7.0	7.0	5.5	5.5	5.5	9.9	9.9	7.7	7.7	7.7	7.7
Approach LOS	A	A	A	A	A	A	A	A	A	A	A	A
Queue Length 50th (ft)	6	31	2	3	2	2	10	10	5	5	5	5
Queue Length 95th (ft)	21	70	7	13	12	12	37	37	25	25	25	25
Internal Link Dist (ft)	172	172	172	192	192	192	321	321	233	233	233	233
Turn Bay Length (ft)	80	1968	70	70	1679	1492	1667	1667	1667	1667	1667	1667
Base Capacity (vph)	1463	1968	952	1679	1679	1492	1667	1667	1667	1667	1667	1667
Starvation Cap Reductn	0	64	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.17	0.04	0.04	0.03	0.08	0.08	0.08	0.05	0.05	0.05	0.05

Lanes, Volumes, Timings
2: St Charles Ave & Detroit Ave

One Lakewood Place
2019 Existing - AM Peak Hour



Lanes, Volumes, Timings
3: Belle Ave & Detroit Ave

One Lakewood Place
2019 Existing - AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SSR
Lane Configurations	3	4	4	4	4	4	4	4	4	4	4	4
Traffic Volume (vph)	34	255	24	19	231	24	10	65	35	23	49	50
Future Volume (vph)	34	255	24	19	231	24	10	65	35	23	49	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	12	10	10	10	10	10	11	11	11	11
Grade (%)	0%	0%	-2%	-2%	1%	1%	3%	3%	0	0	0	0
Storage Length (ft)	100	100	100	100	100	100	100	100	100	100	100	100
Storage Lanes	1	1	0	1	1	0	0	0	1	0	0	1
Taper Length (ft)	25	1546	1705	1615	1547	1684	0	0	1722	1500	0	1780
Sat'd. Flow (prot)	0.554	0.554	0.554	0.554	0.554	0.554	0.554	0.554	0.554	0.554	0.554	0.554
RT Permitted	693	1705	1561	885	1684	0	0	1705	1450	0	1773	1381
Sat'd. Flow (perm)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Right Turn on Red	79	79	79	79	79	79	79	79	79	79	79	79
Sat'd. Flow (RTOR)	25	25	25	25	25	25	25	25	25	25	25	25
Link Speed (mph)	272	272	272	272	272	272	272	272	272	272	272	272
Link Distance (ft)	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
Travel Time (s)	14	13	13	13	13	14	30	30	5	5	5	30
Cont. Peds. (ft/m)	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Peak Hour Factor	9%	4%	0%	10%	5%	0%	0%	2%	0%	0%	0%	0%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)	43	319	30	24	319	0	0	94	45	0	90	63
Lane Group Flow (vph)	Perm	NA	Perm	Perm	NA	Perm	Split	NA	Perm	Split	NA	Perm
Turn Type	2	2	2	2	2	2	2	2	2	2	2	2
Protected Phases	2	2	2	2	2	2	2	2	2	2	2	2
Permitted Phases	53.0	53.0	53.0	53.0	53.0	24.0	24.0	24.0	23.0	23.0	23.0	23.0
Total Spent (s)	5.8	5.8	5.8	5.8	5.8	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Total Lost Time (s)	21.6	21.6	21.6	21.6	21.6	8.6	8.6	8.6	8.4	8.4	8.4	8.4
Act. Effct Green (s)	0.46	0.46	0.46	0.46	0.46	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Actuated G/C Ratio	0.10	0.40	0.04	0.06	0.41	0.30	0.13	0.28	0.20	0.28	0.20	0.20
w/c Ratio	13.3	15.5	0.4	12.8	15.2	22.5	2.9	22.5	5.7	22.5	5.7	5.7
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	13.3	15.5	0.4	12.8	15.2	22.5	2.9	22.5	5.7	22.5	5.7	5.7
Total Delay	13.3	15.5	0.4	12.8	15.2	22.5	2.9	22.5	5.7	22.5	5.7	5.7
LOS	B	B	A	B	B	C	C	A	A	C	A	A
Approach Delay	14.1	14.1	14.1	14.1	14.1	15.1	15.1	15.1	15.6	15.6	15.6	15.6
Approach LOS	B	B	A	B	B	C	C	A	A	C	A	A
Queue Length 50th (ft)	8	71	0	5	89	22	22	22	0	21	21	0
Queue Length 95th (ft)	26	135	0	17	133	61	61	61	5	59	59	14
Internal Link Dist. (ft)	192	192	192	192	198	869	869	869	226	226	226	226
Turn Bay Length (ft)	100	100	100	100	198	869	869	869	226	226	226	226
Base Capacity (vph)	846	1615	1482	848	1595	756	685	741	625	741	625	625
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced w/c Ratio	0.05	0.21	0.02	0.03	0.21	0.12	0.07	0.12	0.12	0.07	0.12	0.10
Intersection Summary												
Area Type:	Other											
Cycle Length:	100											

Lanes, Volumes, Timings
3: Belle Ave & Detroit Ave

One Lakewood Place
2019 Existing - AM Peak Hour

Actuated Cycle Length: 46.5	
Control Type: Semi Act/Uncoord	
Maximum v/c Ratio: 0.41	
Intersection Signal Delay: 14.9	Intersection LOS: B
Intersection Capacity Utilization: 42.5%	ICU Level of Service: A
Analysis Period (min): 15	



Lanes, Volumes, Timings
4: Marlowe Ave & Detroit Ave

One Lakewood Place
2019 Existing - AM Peak Hour

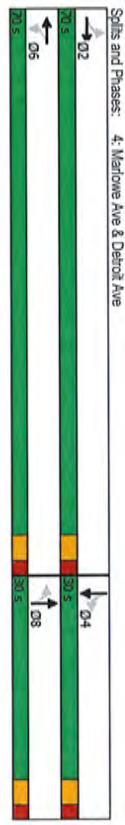
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1 ^L	2 ^L	2	8	25 ^L	17	10	30	16	32	28	13
Traffic Volume (vph)	15	292	2	8	251	17	10	30	16	32	23	13
Future Volume (vph)	15	292	2	8	251	17	10	30	16	32	23	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	11	10	12	12	11	11	11	11	11	11
Grade (%)	2%			0%			-3%					
Storage Length (ft)	100			60			0					
Storage Lanes	1			1			0					
Taper Length (ft)	25			25			25					
Satd. Flow (prot)	1688	1734	0	1504	1812	0	0	1675	0	0	1659	0
Phi Permitted	0.580			0.533			0.916				0.813	
Satd. Flow (perm)	990	1734	0	840	1812	0	0	1547	0	0	1377	0
Right Turn on Red Satd. Flow (RTOR)			No			No			No			No
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		278			212			968			327	
Travel Time (s)		7.6			5.8			26.4			8.9	
Contd. Peds. (ft/hr)	12		11	11	12		2	3		3	2	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	0%	4%	100%	12%	4%	0%	10%	0%	12%	0%	9%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	20	387	0	11	352	0	0	73	0	0	89	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases			2			6		8			4	
Permitted Phases	2			5			8			4		
Total Spill (s)	70.0	70.0		70.0	70.0		30.0	30.0		30.0	30.0	
Total Lost Time (s)	5.1	5.1		5.1	5.1		3.1	3.1		3.1	3.1	
Act Effct Green (s)	22.3	22.3		22.3	22.3		7.6	7.6		7.6	7.7	
Actuated v/c Ratio	0.88	0.68		0.68	0.68		0.23	0.23		0.23	0.23	
v/c Ratio	0.03	0.33		0.02	0.29		0.27	0.27		0.27	0.27	
Control Delay	5.5	6.4		5.4	6.0		12.6	12.6		13.6	13.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	5.5	6.4		5.4	6.0		12.6	12.6		13.6	13.6	
LOS	A	A		A	A		B	B		B	B	
Approach Delay		6.3			6.0		12.6	13.6		13.6	13.6	
Approach LOS		A			A		B	B		B	B	
Queue Length 50th (ft)	2	40		1	36		10	10		12	12	
Queue Length 95th (ft)	7	76		5	67		29	29		35	35	
Internal Link Dist. (ft)		198			132			888			247	
Turn Bay Length (ft)	100			60								
Base Capacity (vph)	960	1734		840	1812		1195	1084		1084	1084	
Stevation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.02	0.23		0.01	0.19		0.06	0.06		0.06	0.06	

Intersection Summary
Area Type: Other
Cycle Length: 100

Lanes, Volumes, Timings
4: Marlowe Ave & Detroit Ave

One Lakewood Place
2019 Existing - AM Peak Hour

Actuated Cycle Length: 32.8
Control Type: Semi-Act/Uncoord
Maximum v/c Ratio: 0.33
Intersection Signal Delay: 7.4
Intersection LOS: A
Intersection Capacity Utilization: 32.4%
ICU Level of Service: A
Analysis Period (min): 15



HCM 2010 TWSC
5: Lincoln Ave & Detroit Ave

One Lakewood Place
2019 Existing - AM Peak Hour

Int Delay, s/veh	EBL		EBT		WBL		WBT		NBL		NBT		SBL		SBT	
1.3	3	338	7	22	263	6	6	1	37	1	1	7	7	7	7	7
Lane Configurations	3	338	7	22	263	6	6	1	37	1	1	7	7	7	7	7
Traffic Vol, veh/h	3	338	7	22	263	6	6	1	37	1	1	7	7	7	7	7
Future Vol, veh/h	3	338	7	22	263	6	6	1	37	1	1	7	7	7	7	7
Conflicting Peds #/hr	9	0	7	7	0	9	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	None	-	None	-	None	-	None	-	None	-	None	-
Storage Length	80	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
Veh in Median Storage #	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
Grade, %	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	0	4	14	0	4	0	4	0	0	0	0	0	0	0	0	0
Mynt Flow	4	439	9	29	342	8	8	1	48	1	1	9	9	9	9	9

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	359	0	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.1	-	4.1	-
Critical Hdwy Sg 1	-	-	6.7	6.1
Critical Hdwy Sg 2	-	-	5.7	5.1
Follow-up Hdwy	2.2	-	2.2	-
Pd1 Cap-1 Maneuver	1211	-	1116	-
Stage 1	-	-	616	600
Stage 2	-	-	652	623
Platoon blocked %	-	-	-	-
Mov Cap-1 Maneuver	1202	-	1111	-
Mov Cap-2 Maneuver	-	-	289	306
Stage 1	-	-	611	396
Stage 2	-	-	624	602
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.6	12.6	13.8
HCM LOS	B	B	B	B

Major Lane/Minor Lane	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Capacity (veh/h)	529	1202	-	-	1111	-	-	423	-	-	423	-	-
HCM Lane V/C Ratio	0.108	0.003	-	-	0.026	-	-	0.028	-	-	0.028	-	-
HCM Control Delay (s)	12.6	8	-	-	8.3	-	-	13.8	-	-	13.8	-	-
HCM Lane LOS	B	A	-	-	A	-	-	B	-	-	B	-	-
HCM 95th Pctile (veh)	0.4	0	-	-	0.1	-	-	0.1	-	-	0.1	-	-

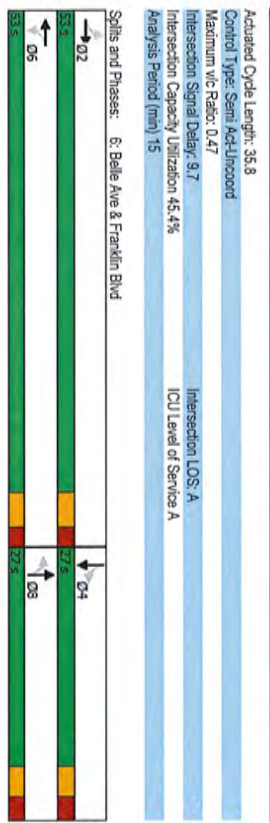
Lanes, Volumes, Timings
6: Belle Ave & Franklin Blvd

One Lakewood Place
2019 Existing - AM Peak Hour

Lane Group	EBL	EBT	EER	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	40	316	13	10	271	24	15	62	18	31	49	22
Future Volume (vph)	40	315	13	10	271	24	15	62	18	31	49	22
Base Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	10	10	13	10	10	14	14	14	14	14	14
Grade (%)	0%	0%	0%	0%	0%	0%	-2%	0%	0%	0%	0%	0%
Storage Length (ft)	0	1	0	1	0	0	0	0	0	0	0	0
Storage Lanes	1	1	0	1	0	0	0	0	0	0	0	0
Taper Length (ft)	25	1743	0	25	1749	0	0	1954	0	0	1891	0
Satd. Flow (perm)	0.519	1829	0	0.478	1749	0	0	0.913	0	0	0.849	0
Flt. Permitted	995	1743	0	929	1749	0	0	1797	0	0	1630	0
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)	4	35	25	35	285	390	25.9	484	35	25	35	25
Link Speed (mph)	454	8.8	24	24	13	3	0.71	0.71	0.71	0.71	0.71	0.71
Link Distance (ft)	13	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
Travel Time (s)	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Confl. Peds. (#/hr)	56	462	0	14	416	0	133	0	0	144	0	0
Peak Hour Factor	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Heavy Vehicles (%)	2	53.0	53.0	53.0	53.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0
Shared Lane Traffic (%)	5.5	5.5	5.5	5.5	5.5	8.4	8.4	8.4	8.4	8.4	8.4	8.4
Lane Group Flow (vph)	20.1	20.1	20.1	20.1	20.1	0.23	0.23	0.23	0.23	0.23	0.23	0.23
Turn Type	0.56	0.56	0.56	0.56	0.56	0.36	0.36	0.36	0.36	0.36	0.36	0.36
Protected Phases	0.10	0.47	0.03	0.03	0.42	13.5	13.5	13.5	13.5	13.5	13.5	13.5
Permitted Phases	6.5	9.0	0.0	0.0	5.9	8.3	8.3	8.3	8.3	8.3	8.3	8.3
Total Delay	6.5	9.0	5.9	8.3	8.3	13.5	13.5	13.5	13.5	13.5	13.5	13.5
Approach Delay	A	A	A	A	A	B	B	B	B	B	B	B
Approach LOS	A	A	A	A	A	B	B	B	B	B	B	B
Queue Length 50th (ft)	5	57	1	48	19	18	19	18	19	18	19	18
Queue Length 95th (ft)	16	94	6	82	45	48	45	48	45	48	45	48
Internal Link Dist (ft)	374	140	310	1117	1015	1015	1015	1015	1015	1015	1015	1015
Turn Bay Length (ft)	995	1743	929	1749	1749	1749	1749	1749	1749	1749	1749	1749
Base Capacity (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Shoulder Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.27	0.02	0.24	0.12	0.14	0.14	0.14	0.14	0.14	0.14	0.14
Intersection Summary	Other											
Area Type:	Other											
Cycle Length:	80											

Lanes, Volumes, Timings
6: Belle Ave & Franklin Blvd

One Lakewood Place
2019 Existing - AM Peak Hour



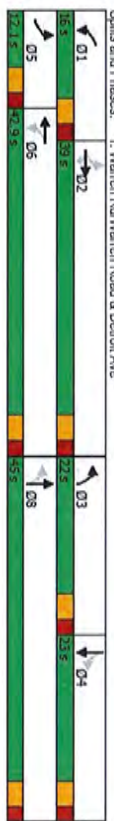
Intersection	EBL		EBT		WBL		WBT		NBL		NBT		SBL		SBT		SBR	
Int Delay, s/veh	3.2																	
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR						
Lane Configurations	15	342	6	5	260	7	9	31	7	5	17	13						
Traffic Vol, veh/h	15	342	6	5	260	7	9	31	7	5	17	13						
Future Vol, veh/h	11	0	28	28	0	11	1	0	0	0	0	1						
Conflicting Peds. #/hr	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop						
Sign Control	-	-	None	-	-	None	-	-	None	-	-	None						
RT Channelized	140	-	0	-	0	-	-	-	-	-	-	-						
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-						
Veh in Median Storage #	-	-	1	-	1	-	0	-	0	-	-	-						
Grade %	-	-	0	-	0	-	0	-	0	-	0	-						
Peak Hour Factor	65	65	65	65	65	65	65	65	65	65	65	65						
Heavy Vehicles, %	0	2	0	0	0	29	0	3	0	20	12	0						
Wymt Flow	23	526	9	8	431	11	14	48	11	8	26	20						

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	19	263	131	140	319	16	196	133	140	1	148	22
Traffic Volume (vph)	19	263	131	140	319	16	196	133	140	1	148	22
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	9	11	12	10	12	12	10	11	11	16	16	16
Lane Width (ft)	60	60	60	80	80	80	80	80	80	80	80	80
Grade (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Storage Length (ft)	1	1	1	1	1	1	1	1	1	1	1	1
Storage Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Taper Length (ft)	25	1809	1575	1660	1836	0	1693	1664	0	2032	0	0
Sat'd. Flow (vphpl)	0.544	0.544	0.339	0.339	0.333	0.333	0.333	0.333	0.333	0.333	0.333	0.333
Fit Permitted	1809	1464	580	1836	0	589	1664	0	2027	0	0	0
Sat'd. Flow (vphpl)	25	351	35	35	252	25	341	25	341	25	341	25
Link Distance (ft)	9.6	9.6	6.9	6.9	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3
Travel Time (s)	40	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Confl. Peds. #/hr	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Peak Hour Factor	5%	1%	2%	1%	2%	0%	1%	2%	1%	0%	1%	5%
Heavy Vehicles (%)	21	308	142	152	364	0	213	297	0	0	166	0
Shared Lane Traffic (%)	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	pm+pt	NA	Perm	NA	NA
Lane Group Flow (vph)	5	2	2	6	8	3	8	4	4	4	4	4
Turn Type	2	12.1	39.0	16.0	42.9	22.0	45.0	23.0	23.0	23.0	23.0	23.0
Permitted Phases	3.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Total Spill (s)	24.8	18.5	18.5	32.9	29.3	29.4	29.4	12.2	12.2	12.2	12.2	12.2
Total Lost Time (s)	0.34	0.25	0.25	0.45	0.40	0.40	0.40	0.17	0.17	0.17	0.17	0.17
Act Effct Green (s)	0.06	0.67	0.38	0.38	0.50	0.51	0.45	0.55	0.55	0.55	0.55	0.55
Actuated g/C Ratio	13.3	33.5	27.2	15.9	22.1	21.1	19.7	37.2	37.2	37.2	37.2	37.2
w/c Ratio	0.0	0.0	0.0	0.5	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay	13.3	33.5	27.2	15.9	22.1	21.1	19.7	37.2	37.2	37.2	37.2	37.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.3	33.5	27.2	16.4	23.2	21.1	19.7	37.2	37.2	37.2	37.2	37.2
LOS	B	C	C	C	B	C	C	B	C	B	D	D
Approach Delay	30.7			21.2			20.2			37.2		
Approach LOS	C			C			C			D		
Queue Length 50th (ft)	5	123	52	39	104	64	94	77	77	77	77	77
Queue Length 95th (ft)	19	240	118	89	268	139	197	170	170	170	170	170
Internal Link Dist (ft)	271	271	172	172	261	261	261	261	261	261	261	261
Turn Bay Length (ft)	60	60	60	80	80	80	80	80	80	80	80	80
Base Capacity (vph)	371	875	708	428	991	503	948	518	518	518	518	518
Stemation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced w/c Ratio	0.06	0.35	0.20	0.44	0.61	0.42	0.31	0.36	0.36	0.36	0.36	0.36

Lanes, Volumes, Timings
 1: Warren Rd/Warren Road & Detroit Ave

One Lakewood Place
 2019 Existing - PM Peak Hour

Activated Cycle Length: 73.2
 Control Type: Semi-Act/Uncoordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 25.3
 Intersection LOS: C
 Intersection Capacity Utilization: 65.2%
 ICU Level of Service: C
 Analysis Period (min): 15



Soils and Phases: 1: Warren Rd/Warren Road & Detroit Ave

Lanes, Volumes, Timings
 2: St Charles Ave & Detroit Ave

One Lakewood Place
 2019 Existing - PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Traffic Volume (vph)	39	348	36	37	403	32	17	39	20	22	62	60
Future Volume (vph)	39	348	36	37	403	32	17	39	20	22	62	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	15	15	10	12	12	10	10	10	13	13	13
Grade (%)	-1%	-1%	-1%	1%	1%	1%	1%	-1%	0	0	2%	0
Storage Length (ft)	80	0	0	70	0	0	0	0	0	0	0	0
Storage Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Taper Length (ft)	25	2044	0	25	1828	0	25	1659	0	0	1766	0
Satd. Flow (vph)	1879	2044	0	1676	1828	0	0	1659	0	0	1766	0
Fit Permitted	0.430	0.430	0	0.483	0.483	0	0	0.896	0	0	0.936	0
Right Turn on Red	837	2044	0	842	1828	0	0	1495	0	0	1692	0
Satd. Flow (RTOR)	9	Yes	Yes	7	Yes	Yes	20	Yes	Yes	Yes	38	Yes
Link Speed (mph)	25	25	25	25	25	25	25	25	25	25	25	25
Link Distance (ft)	252	252	252	272	272	272	272	401	401	401	313	313
Travel Time (s)	6.9	6.9	6.9	7.4	7.4	7.4	10.9	10.9	10.9	10.9	8.5	8.5
Confl. Peds. (#/hr)	39	28	28	28	39	21	23	23	23	23	21	21
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	1%	0%	0%	2%	0%	0%	3%	0%	0%	2%	0%
Shared Lane Traffic (%)	44	436	0	42	494	0	0	86	0	0	163	0
Lane Group Flow (vph)	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Permitted Phases	2	2	2	6	6	6	8	8	8	4	4	4
Total Spc (s)	62.0	62.0	62.0	62.0	62.0	62.0	38.0	38.0	38.0	38.0	38.0	38.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Act Effct Green (s)	19.3	19.3	19.3	19.3	19.3	19.3	8.9	8.9	8.9	8.9	8.9	8.9
Achieved g/C Ratio	0.50	0.50	0.50	0.50	0.50	0.50	0.23	0.23	0.23	0.23	0.23	0.23
v/c Ratio	0.11	0.43	0.10	0.10	0.54	0.24	0.49	0.49	0.49	0.49	0.49	0.49
Control Delay	6.5	7.9	6.4	6.4	9.6	11.9	13.2	13.2	13.2	13.2	13.2	13.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.5	8.0	6.4	6.4	9.6	11.9	13.2	13.2	13.2	13.2	13.2	13.2
LOS	A	A	A	A	A	A	B	B	B	B	B	B
Approach Delay	7.8	7.8	7.8	9.4	9.4	9.4	11.9	11.9	11.9	11.9	11.9	11.9
Approach LOS	A	A	A	A	A	A	B	B	B	B	B	B
Queue Length 50th (ft)	4	47	4	4	58	9	9	9	9	9	18	18
Queue Length 95th (ft)	17	110	17	17	136	64	64	64	64	64	118	118
Internal Link Dist (ft)	172	172	172	172	192	321	321	321	321	321	233	233
Turn Bay Length (ft)	80	2044	80	70	1828	1291	1291	1291	1291	1291	1438	1438
Base Capacity (vph)	837	2044	837	842	1828	118	118	118	118	118	118	118
Stallion Cap Reductn	0	279	0	0	118	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.25	0.05	0.05	0.29	0.07	0.11	0.11	0.11	0.11	0.11	0.11

Intersection Summary

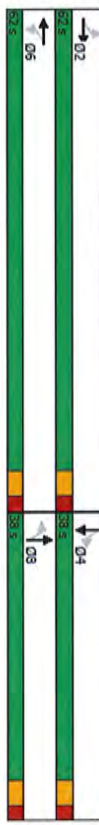
Area Type: Other

Cycle Length: 100

Lanes, Volumes, Timings
2: St Charles Ave & Detroit Ave

One Lakewood Place
2019 Existing - PM Peak Hour

Actuated Cycle Length: 38.6
Control Type: Semi-Act-Linkcoord
Maximum v/c Ratio: 0.54
Intersection Signal Delay: 9.4
Intersection LOS: A
Intersection Capacity Utilization: 51.0%
ICU Level of Service: A
Analysis Period (min): 15

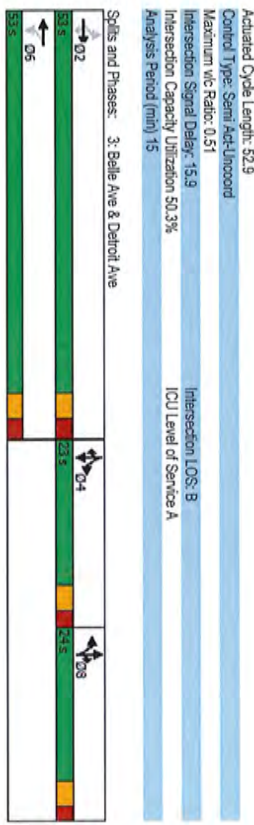


Lanes, Volumes, Timings
3: Belle Ave & Detroit Ave

One Lakewood Place
2019 Existing - PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Future Volume (vph)	36	334	30	23	372	38	29	58	23	22	61	78
Initial Volume (vph)	36	334	30	23	372	38	29	58	23	22	61	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	12	10	10	10	10	10	10	11	11	11
Grade (%)	0%	0%	0%	-2%	-2%	0	100	1%	0	90	3%	0
Storage Length (ft)	100	100	100	100	100	0	100	0	0	0	0	0
Storage Lanes	1	1	0	1	1	0	0	0	0	0	0	0
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25	25
Satd. Flow (prot)	1685	1739	1615	1702	1722	0	0	1736	1500	0	1785	1538
Flt. Permitted	0.419	0.419	0.503	0.503	0.503	0.987	0.987	0.987	0.987	0.987	0.987	0.987
Satd. Flow (perm)	733	1739	1532	885	1722	0	0	1893	1500	0	1779	1538
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)	79	79	79	79	79	79	79	79	79	79	79	79
Link Speed (mph)	25	25	25	25	25	25	25	25	25	25	25	25
Link Distance (ft)	272	272	272	272	272	272	272	272	272	272	272	272
Travel Time (s)	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
Confl. Pecks (fl/h)	28	28	30	30	30	28	32	32	32	32	32	32
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	2%	0%	0%	2%	3%	0%	0%	0%	0%	0%	0%
Skewed Lane Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Lane Group Flow (vph)	40	367	33	25	451	0	0	95	25	0	91	86
Turn Type	Perm	NA	Perm	Perm	NA	Split	NA	Split	NA	Split	NA	Prot
Protected Phases	2	2	2	2	2	6	6	8	8	8	4	4
Permitted Phases	2	2	2	2	2	6	6	8	8	8	4	4
Total Spill (s)	53.0	53.0	53.0	53.0	53.0	24.0	24.0	24.0	23.0	23.0	23.0	23.0
Total Lost Time (s)	5.8	5.8	5.8	5.8	5.8	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Act. Effct Green (s)	27.1	27.1	27.1	27.1	27.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1
Actuated g/C Ratio	0.51	0.51	0.51	0.51	0.51	0.17	0.17	0.17	0.17	0.17	0.17	0.17
v/c Ratio	0.11	0.44	0.04	0.06	0.51	0.32	0.08	0.30	0.26	0.26	0.26	0.26
Control Delay	12.8	14.8	0.4	12.0	16.1	26.5	0.4	26.5	9.2	9.2	9.2	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.8	14.8	0.4	12.0	16.1	26.5	0.4	26.5	9.2	9.2	9.2	9.2
LOS	B	B	A	B	B	C	C	A	A	A	A	A
Approach Delay	13.6	13.6	13.6	13.6	13.6	21.1	21.1	18.1	18.1	18.1	18.1	18.1
Approach LOS	B	B	B	B	B	C	C	B	B	B	B	B
Queue Length 50th (ft)	8	87	0	5	113	27	27	26	26	26	26	26
Queue Length 95th (ft)	29	188	2	20	240	81	81	78	78	78	78	78
Internal Link Dist (ft)	192	192	192	192	192	869	869	226	226	226	226	226
Turn Bay Length (ft)	100	100	100	100	100	681	640	663	625	625	625	625
Base Capacity (vph)	647	1534	1361	781	1520	0	0	0	0	0	0	0
Stevenson Cap Reductn	0	195	0	0	176	0	0	0	0	0	0	0
Skittleck Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.27	0.02	0.03	0.34	0.14	0.04	0.14	0.14	0.14	0.14	0.14

Lanes, Volumes, Timings
 3: Belle Ave & Detroit Ave
 One Lakewood Place
 2019 Existing - PM Peak Hour



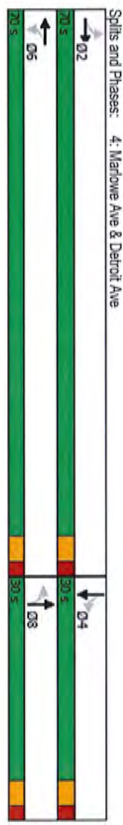
Lanes, Volumes, Timings
 4: Marlowe Ave & Detroit Ave
 One Lakewood Place
 2019 Existing - PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Traffic Volume (vph)	20	333	19	16	408	23	13	23	7	24	42	16
Future Volume (vph)	20	333	19	16	408	23	13	23	7	24	42	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	11	10	12	12	11	11	11	11	11	11
Grade (%)	2%	2%	0%	0%	0%	0%	-3%	0%	0%	0%	0%	0%
Storage Length (ft)	100	1	0	80	1	0	0	0	0	0	0	0
Storage Lanes	1	1	0	1	1	0	0	0	0	0	0	0
Tapel Length (ft)	25	25	0	25	0	0	25	0	0	25	0	0
Satd. Flow (prot)	1668	1766	0	1685	1843	0	0	1744	0	1704	0	0
PI Permitted	0.465	0.529	0	0.529	0	0	0.883	0	0	0.884	0	0
Satd. Flow (perm)	812	1786	0	924	1843	0	0	1528	0	1523	0	0
Right Turn on Red			No			No			No		No	No
Satd. Flow (RTOR)												
Link Speed (mph)	25	278	25	25	212	25	25	988	25	327	25	327
Link Distance (ft)	278	7.6	25	212	5.8	25	25	988	25	327	25	327
Travel Time (s)	16	34	34	34	16	16	1	5	5	1	5	1
Cont. Peds. (#/hr)	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Peak Hour Factor	0%	2%	0%	0%	2%	4%	8%	0%	0%	0%	0%	0%
Heavy Vehicles (%)	0%	2%	0%	0%	2%	4%	8%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)	22	395	0	18	484	0	0	49	0	92	0	0
Lane Group Flow (vph)	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases	2	6	6	6	2	2	8	8	4	4	8	4
Permitted Phases	7.0.0	7.0.0	7.0.0	7.0.0	7.0.0	7.0.0	3.0.0	3.0.0	3.0.0	3.0.0	3.0.0	3.0.0
Total Spilt (s)	5.1	5.1	5.1	5.1	5.1	5.1	7.9	7.9	7.9	7.9	7.9	7.9
Total Lost Time (s)	23.4	23.4	23.4	23.4	23.4	23.4	0.21	0.21	0.21	0.21	0.21	0.21
Act Effect Green (s)	0.63	0.63	0.63	0.63	0.63	0.63	0.15	0.15	0.15	0.15	0.15	0.15
Actualized g/C Ratio	0.04	0.36	0.03	0.03	0.42	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Wt Ratio	5.3	6.7	5.2	7.3	13.6	5.3	13.6	13.6	13.6	13.6	13.6	13.6
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	5.3	6.8	5.2	7.3	13.6	5.3	13.6	13.6	13.6	13.6	13.6	13.6
Total Delay	A	A	A	A	A	A	B	B	B	B	B	B
LOS	A	A	A	A	A	A	B	B	B	B	B	B
Approach Delay	6.7	7.2	7.2	7.2	6.7	6.7	13.6	13.6	13.6	13.6	13.6	13.6
Approach LOS	A	A	A	A	A	A	B	B	B	B	B	B
Queue Length 50th (ft)	2	42	2	55	8	8	8	8	8	8	8	8
Queue Length 95th (ft)	9	96	8	120	45	45	28	28	28	28	28	28
Internal Link Dist. (ft)	198	198	132	132	198	198	888	888	888	888	888	888
Turn Bay Length (ft)	100	60	60	60	100	100	1046	1046	1046	1046	1046	1046
Base Capacity (vph)	812	1766	924	1843	812	812	1046	1046	1046	1046	1046	1046
Starvation Cap Reductn	0	196	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.25	0.02	0.26	0.03	0.03	0.05	0.05	0.05	0.05	0.05	0.05

Lanes, Volumes, Timings
4: Marlowe Ave & Detroit Ave

One Lakewood Place
2019 Existing - PM Peak Hour

Activated Cycle Length: 37.4
Control Type: Semi Act/Uncoord
Maximum v/c Ratio: 0.42
Intersection Signal Delay: 8.0
Intersection LOS: A
Intersection Capacity Utilization: 37.4%
ICU Level of Service: A
Analysis Period (min): 15



HCM 2010 TWSC
5: Lincoln Ave & Detroit Ave

One Lakewood Place
2019 Existing - PM Peak Hour

Intersection	Int Delay, s/veh	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lincoln Ave	1.9	9	357	16	46	418	8	9	0	26	9	6	16
Tramc Vol, veh/h		9	357	16	46	418	8	9	0	26	9	6	16
Future Vol, veh/h		30	0	19	19	0	30	4	0	1	1	0	4
Conflicting Peds, #/hr		Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Sign Control		Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized		-	-	None	-	-	None	-	-	None	-	-	None
Storage Length		80	-	0	-	0	-	-	-	-	-	-	-
Veh in Median Storage, #		0	0	0	0	0	0	0	0	0	0	0	0
Grade, %		-	0	-	0	-	0	-	0	-	0	-	0
Peak Hour Factor		87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %		0	1	0	0	1	0	0	0	0	0	0	0
Mvmt Flow		10	410	18	53	480	9	10	0	30	10	7	18

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	519	0	447	0
Stage 1	-	-	458	458
Stage 2	-	-	807	825
Critical Hdwy	4.1	-	6.7	6.1
Critical Hdwy Sig 1	-	-	5.7	5.1
Critical Hdwy Sig 2	-	-	5.7	5.1
Follow-up Hdwy	2.2	-	3.5	4
Platoon Headway	1057	-	1124	-
Stage 1	-	-	228	247
Stage 2	-	-	617	600
Platoon Blocked, %	-	-	521	515
Mov Cap-1 Maneuver	1032	-	1110	-
Mov Cap-2 Maneuver	-	-	189	225
Stage 1	-	-	803	587
Stage 2	-	-	487	478

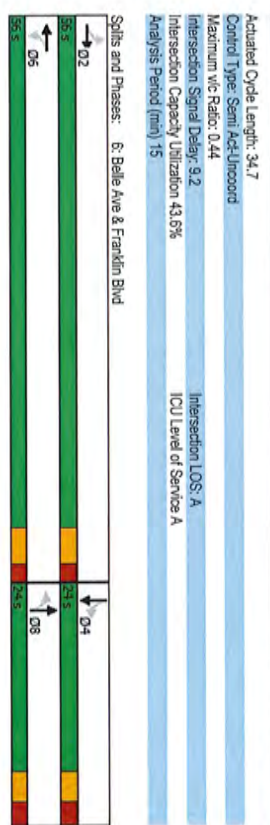
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.8	14.9	25.7
HCM LOS	B	B	B	D

Lanes, Volumes, Timings
 6: Belle Ave & Franklin Blvd
 One Lakewood Place
 2019 Existing - PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	2	2	1	2	2	1	1	1	1	1	1
Traffic Volume (vph)	11	299	25	19	375	20	9	52	17	28	78	43
Future Volume (vph)	11	299	25	19	375	20	9	52	17	28	78	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	10	10	13	10	10	14	14	14	14	14	14
Grade (%)	0%	0%	0%	0%	0%	0%	-2%	0%	0%	0%	0%	0%
Storage Length (ft)	0	0	0	140	0	0	0	0	0	0	0	0
Taper Length (ft)	1	1	0	1	0	0	0	0	0	0	0	0
Sat'd Flow (prot)	1865	1749	0	1865	1758	0	0	1863	0	0	1888	0
Flt Permitted	0.510	0	0	0.550	0	0	0.934	0	0	0.914	0	0
Sat'd Flow (perm)	1000	1749	0	1076	1758	0	0	1841	0	0	1738	0
Right Turn on Red			Yes			Yes		Yes		Yes		Yes
Sat'd Flow (RTOR)	10	35	0	7	35	0	16	25	0	24	0	25
Link Speed (mph)	454	454	0	285	285	0	380	380	0	949	0	949
Travel Time (s)	8.8	8.8	0	5.6	5.6	0	10.6	10.6	0	25.9	0	25.9
Confl. Peds. (#/hr)	6	8	8	8	8	6	10	5	5	5	5	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	352	0	21	430	0	0	85	0	0	162	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases	2	2	0	6	6	0	8	8	0	4	4	0
Permitted Phases	56.0	56.0	0	56.0	56.0	0	24.0	24.0	0	24.0	24.0	0
Total Split (s)	5.5	5.5	0	5.5	5.5	0	5.5	5.5	0	5.5	5.5	0
Total Lost Time (s)	19.2	19.2	0	19.2	19.2	0	8.1	8.1	0	8.3	8.3	0
Act Effect Green (s)	0.55	0.55	0	0.55	0.55	0	0.23	0.23	0	0.24	0.24	0
Actuated v/c Ratio	0.02	0.36	0	0.04	0.44	0	0.19	0.19	0	0.37	0.37	0
v/c Ratio	5.9	7.8	0	6.1	8.6	0	11.0	11.0	0	13.2	13.2	0
Control Delay	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0
Queue Delay	5.9	7.8	0	6.1	8.6	0	11.0	11.0	0	13.2	13.2	0
Total Delay	5.9	7.8	0	6.1	8.6	0	11.0	11.0	0	13.2	13.2	0
LOS	A	A	A	A	A	A	B	B	A	B	B	A
Approach Delay	7.7	7.7	0	8.5	8.5	0	11.0	11.0	0	13.2	13.2	0
Approach LOS	A	A	A	A	A	A	B	B	A	B	B	A
Queue Length 50th (ft)	1	38	0	2	50	0	9	9	0	19	19	0
Queue Length 95th (ft)	7	94	0	10	120	0	38	38	0	68	68	0
Internal Link Dist (ft)	374	374	0	205	205	0	310	310	0	859	859	0
Turn Bay Length (ft)	1000	1749	0	140	1758	0	1012	1012	0	959	959	0
Base Capacity (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Starvation Cap Reducn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reducn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reducn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.20	0	0.02	0.24	0	0.08	0.08	0	0.17	0.17	0

Area Type: Other
 Cycle Length: 80
 Langan
 03/21/2019
 Synchro 10 Report
 Page 9

Lanes, Volumes, Timings
 6: Belle Ave & Franklin Blvd
 One Lakewood Place
 2019 Existing - PM Peak Hour



Activated Cycle Length: 34.7
 Control Type: Semi Act-Unicoord
 Maximum v/c Ratio: 0.44
 Intersection Signal Delay: 9.2
 Intersection Capacity Utilization: 43.6%
 ICU Level of Service: A
 Analysis Period (min): 15
 Splits and Phases: 6: Belle Ave & Franklin Blvd
 Langan
 03/21/2019
 Synchro 10 Report
 Page 10

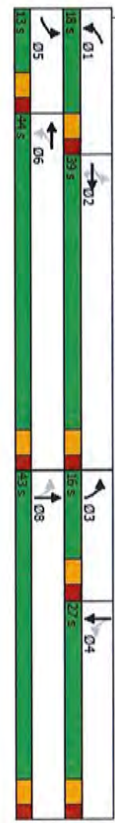
Intersection	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Traffic Vol, veh/h	16	320	6	19	386	7	7	25	10	12	40	23
Future Vol, veh/h	16	320	6	19	386	7	7	25	10	12	40	23
Conflicting Peds. #/hr	4	0	9	9	0	4	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	140	-	0	-	0	-	-	-	0	-	-	0
Veh in Median Storage, #	0	-	0	-	0	-	-	-	0	-	-	0
Grade, %	-	-1	-	-	-	1	-	-	0	-	-	-1
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	17	344	6	20	415	8	8	27	11	13	43	25

Area Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	2	1	1	1	1	1	1	1	1	1	1	1
Traffic Volume (vph)	27	313	155	108	306	26	155	137	163	2	120	11
Future Volume (vph)	27	313	155	108	306	26	155	137	163	2	120	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	9	11	12	10	12	12	10	11	11	16	16	16
Grade (%)	60	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Storage Length (ft)	60	80	80	80	80	80	80	80	80	80	80	80
Storage Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Taper Length (ft)	25	1792	1591	1843	1841	0	1593	1650	0	0	2021	0
Satd. Flow (vph)	0.532	0.532	0.532	0.532	0.532	0.532	0.532	0.532	0.532	0.532	0.532	0.532
RT Permitted	882	1792	1476	608	1841	0	661	1650	0	0	2001	0
Satd. Flow (RTOR)	No	No	No	No	No	No	No	No	No	No	No	No
Link Speed (mi/h)	25	351	351	252	252	25	25	341	352	25	352	25
Link Distance (ft)	36	9.6	36	36	6.9	36	12	23	23	23	23	12
Travel Time (s)	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Confl. Peds. #/hr	0%	2%	1%	2%	1%	0%	1%	1%	1%	0%	3%	1%
Peak Hour Factor	0%	2%	1%	2%	1%	0%	1%	1%	1%	0%	3%	1%
Heavy Vehicles (%)	0%	2%	1%	2%	1%	0%	1%	1%	1%	0%	3%	1%
Shared Lane Traffic (%)	28	326	161	113	346	0	161	313	0	138	0	138
Lane Group Flow (vph)	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Turn Type	5	2	2	6	8	3	8	4	4	4	4	4
Permitted Phases	2	2	2	6	8	3	8	4	4	4	4	4
Total Split (s)	13.0	39.0	39.0	18.0	44.0	16.0	43.0	27.0	27.0	27.0	27.0	27.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Act. Effct. Green (s)	23.7	19.0	19.0	28.4	25.2	23.0	23.0	10.9	10.9	10.9	10.9	10.9
Actuated g/C Ratio	0.37	0.30	0.30	0.45	0.40	0.36	0.36	0.17	0.17	0.17	0.17	0.17
Wt-Ratio	0.07	0.61	0.37	0.27	0.48	0.38	0.52	0.41	0.41	0.41	0.41	0.41
Control Delay	10.8	27.2	23.5	12.2	19.2	19.7	21.8	32.7	32.7	32.7	32.7	32.7
Queue Delay	0.0	0.0	0.0	0.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.8	27.2	23.5	12.4	19.6	19.7	21.8	32.7	32.7	32.7	32.7	32.7
LOS	B	C	C	B	B	B	B	C	C	C	C	C
Approach Delay	25.2	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8
Approach LOS	C	B	B	B	B	B	B	C	C	C	C	C
Queue Length 50th (ft)	6	118	54	25	87	44	96	53	53	53	53	53
Queue Length 95th (ft)	20	225	117	57	223	111	216	123	123	123	123	123
Internal Link Dist (ft)	271				172		261					
Turn Bay Length (ft)	60		60	80		180						
Base Capacity (vph)	446	1048	853	525	1192	444	1040	783	783	783	783	783
Starvation Cap Reductn	0	0	0	0	91	408	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.31	0.19	0.26	0.45	0.36	0.30	0.18	0.18	0.18	0.18	0.18

Lanes, Volumes, Timings
 1: Warren Rd/Warren Road & Detroit Ave

One Lakewood Place
 2019 Existing - SAT Peak Hour

Actuated Cycle Length: 63.7
 Control Type: Semi-Act-Unsynchronized
 Maximum v/c Ratio: 0.61
 Intersection Signal Delay: 22.5
 Intersection LOS: C
 Intersection Capacity Utilization: 65.0%
 ICU Level of Service: C
 Analysis Period (min): 15



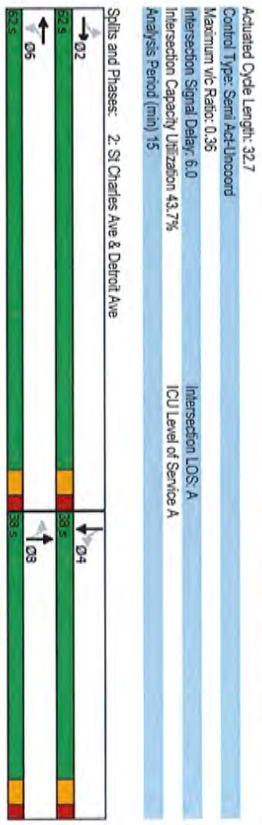
Lanes, Volumes, Timings
 2: St Charles Ave & Detroit Ave

One Lakewood Place
 2019 Existing - SAT Peak Hour

Area Type	Other	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		1	1	1	1	1	1	1	1	1	1	1	1
Traffic Volume (vph)		28	421	28	35	392	37	14	16	26	15	22	37
Future Volume (vph)		28	421	28	35	392	37	14	16	26	15	22	37
Ideal Flow (vphpl)		1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)		14	15	15	10	12	12	10	10	10	13	13	13
Grade (%)		-1%			7%								
Storage Length (ft)		80			70								
Taper Length (ft)		1			1								
Satd. Flow (prot)		1935	2018	0	1676	1840	0	0	1634	0	0	1724	0
PI Permitted		0.497			0.484				0.889			0.915	
Satd. Flow (perm)		994	2018	0	842	1840	0	0	1453	0	0	1619	0
Right Turn on Red				Yes			Yes			Yes			Yes
Link Speed (mph)		6			8				28			40	
Link Distance (ft)		25			25				25			25	
Travel Time (s)		6.9			7.4				10.9			8.5	
Cont. Peds. (#/hr)		43		34	34		43	16	16		9	9	16
Peak Hour Factor		0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)		0%	3%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)													
Lane Group Flow (vph)		30	483	0	38	452	0	0	60	0	0	80	0
Turn Type		Perm	NA	Perm	NA	NA	Perm	NA	NA	Perm	NA	NA	NA
Protected Phases		2			6			8			4		
Permitted Phases		2			6			8			4		
Total Split (s)		62.0			62.0			38.0			38.0		
Total Lost Time (s)		5.1			5.1			5.1			5.1		
Act Effect Green (s)		22.9			22.9			6.6			6.6		
Actuated g/C Ratio		0.70			0.70			0.20			0.20		
v/c Ratio		0.04		0.34	0.05		0.36	0.19			0.22		
Control Delay		4.9		5.5	3.0		5.7	9.5			9.1		
Queue Delay		0.0		0.0	0.0		0.0	0.0			0.0		
Total Delay		4.9		5.5	3.0		5.7	9.5			9.1		
LOS		A		A	A		A	A			A		
Approach Delay			5.5			5.7			9.5			9.1	
Approach LOS			A			A			A			A	
Queue Length 50th (ft)		2	46		3	44			5			6	
Queue Length 95th (ft)		10	103		12	102			24			29	
Internal Link Dist. (ft)			172			192			321			233	
Turn Bay Length (ft)		80			70								
Base Capacity (vph)		994	2018		842	1840			1407			1567	
Starvation Cap Reductn		0	310		0	167			0			0	
Spillback Cap Reductn		0	0		0	0			0			0	
Storage Cap Reductn		0	0		0	0			0			0	
Reduced v/c Ratio		0.03	0.28		0.05	0.28			0.04			0.05	

Lanes, Volumes, Timings
2: St Charles Ave & Detroit Ave

One Lakewood Place
2019 Existing - SAT Peak Hour



Lanes, Volumes, Timings
3: Belle Ave & Detroit Ave

One Lakewood Place
2019 Existing - SAT Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	31	423	21	15	412	22	13	23	17	17	32
Future Volume (vph)	31	423	21	15	412	22	13	23	17	17	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	12	10	10	10	10	10	10	11	11
Grade (%)	0%	0%	0%	-2%	-2%	0	100	1%	0	90	0
Storage Length (ft)	100	100	100	100	100	0	0	0	1	0	1
Taper Length (ft)	25	1589	1739	1615	1702	1751	0	0	1733	1415	0
Satd. Flow (vph)	0.425	1739	1527	0.436	1751	0	0	0.982	1415	0	0.583
RT-Permitted	7/01	1739	1527	7/89	1751	0	0	1720	1415	0	1725
Satd. Flow (Perm)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)	79	79	79	4	4	4	86	86	86	86	86
Link Speed (mph)	25	25	25	25	25	25	25	25	25	25	25
Link Distance (ft)	272	272	272	278	278	278	25.9	25.9	25.9	25.9	25.9
Travel Time (s)	7.4	7.4	7.4	7.6	7.6	7.6	8.3	8.3	8.3	8.3	8.3
Cont. Peak (veh)	31	33	33	33	33	31	8	12	12	12	8
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	6%	2%	0%	0%	1%	5%	0%	6%	6%	0%	4%
Shared Lane Traffic (%)	34	465	23	16	477	0	0	39	19	0	54
Lane Group Flow (vph)	Perm	NA	Perm	Perm	NA	Split	NA	Split	NA	Split	NA
Turn Type	2	2	2	6	6	8	8	8	8	4	4
Protected Phases	2	2	2	6	6	8	8	8	8	4	4
Permitted Phases	2	2	2	6	6	8	8	8	8	4	4
Total Split (s)	53.0	53.0	53.0	53.0	53.0	24.0	24.0	24.0	23.0	23.0	23.0
Total Lost Time (s)	5.8	5.8	5.8	5.8	5.8	5.1	5.1	5.1	5.1	5.1	5.1
Act. Effct Green (s)	28.0	28.0	28.0	28.0	28.0	7.2	7.2	7.6	7.6	7.6	7.6
Activated g/C Ratio	0.58	0.58	0.58	0.58	0.58	0.15	0.15	0.16	0.16	0.16	0.16
v/c Ratio	0.08	0.46	0.03	0.04	0.47	0.15	0.07	0.20	0.20	0.16	0.16
Control Delay	10.5	12.6	0.0	9.9	12.6	24.1	0.5	23.8	3.8	3.8	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.5	12.6	0.0	9.9	12.6	24.1	0.5	23.8	3.8	3.8	3.8
LOS	B	B	A	A	B	C	C	A	A	A	A
Approach Delay	11.9	11.9	11.9	12.5	12.5	16.3	16.3	14.3	14.3	14.3	14.3
Approach LOS	B	B	B	B	B	B	B	B	B	B	B
Queue Length 50th (ft)	6	105	0	3	107	10	10	14	14	14	14
Queue Length 95th (ft)	22	213	0	13	218	39	39	48	48	48	48
Internal Link Dist (ft)	192	192	192	198	198	869	869	226	226	226	226
Turn Bay Length (ft)	100	100	100	100	100	732	648	698	643	643	643
Base Capacity (vph)	635	1576	1391	697	1597	0	0	0	0	0	0
Starvation Cap Reductn	0	169	0	0	170	0	0	0	0	0	0
Shoulder Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reductn v/c Ratio	0.05	0.33	0.02	0.02	0.34	0.05	0.03	0.08	0.08	0.08	0.08
Intersection Summary											
Area Type:	Other										
Cycle Length:	100										

Lanes, Volumes, Timings
 3: Belle Ave & Detroit Ave

One Lakewood Place
 2019 Existing - SAT Peak Hour

Actuated Cycle Length: 48.5
 Control Type: Semi Act/Uncoord
 Maximum v/c Ratio: 0.47
 Intersection Signal Delay: 12.6
 Intersection LOS: B
 Intersection Capacity Utilization: 44.8%
 ICU Level of Service: A
 Analysis Period (min): 15



Lanes, Volumes, Timings
 4: Marlowe Ave & Detroit Ave

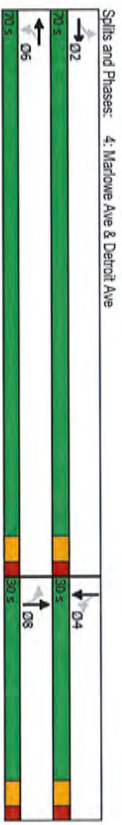
One Lakewood Place
 2019 Existing - SAT Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Traffic Volume (Vph)	18	425	13	9	402	20	11	22	12	16	32	33
Future Volume (Vph)	18	425	13	9	402	20	11	22	12	16	32	33
Ideal Flow (Vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	11	10	12	12	11	11	11	11	11	11
Grade (%)		2%			0%			-3%				
Storage Length (ft)	100		0	60		0	0	0	0	0	0	0
Taper Length (ft)	1		0	1		0	0	0	0	0	0	0
Satd. Flow (vph)	1668	1774	0	1685	1883	0	0	1744	0	0	1625	0
Flt. Permitted	0.488			0.473				0.889			0.920	
Satd. Flow (perm)	846	1774	0	826	1883	0	0	1565	0	0	1497	0
Right Turn on Red Satd. Flow (RTOR)			No			No			No			No
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		278			212			988			327	
Travel Time (s)		7.6			5.8			26.4			8.9	
Cont. Peds. (#/hr)	22		40		40		22		6		24	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%
Shared Lane Traffic (%)												
Lane Group Flow (Vph)	20	476	0	10	459	0	0	49	0	0	88	0
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Prohibited Phases			2			6		8			4	
Permitted Phases	2			6			8			4		
Total Split (s)	70.0	70.0		70.0	70.0		30.0	30.0		30.0	30.0	
Total Lost Time (s)	5.1	5.1		5.1	5.1		5.1	5.1		5.1	5.1	
Act Effct Green (s)	23.9	23.9		23.9	23.9		7.9	7.9		7.9	7.9	
Actuated g/c Ratio	0.63	0.63		0.63	0.63		0.21	0.21		0.21	0.21	
v/c Ratio	0.04	0.43		0.02	0.39		0.15	0.28		0.15	0.28	
Control Delay	5.2	7.3		5.0	6.8		13.9	13.9		15.8	15.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	5.2	7.3		5.0	6.8		13.9	13.9		15.8	15.8	
LOS	A	A		A	A		B	B		B	B	
Approach Delay		7.3			6.8		13.9	13.9		15.8	15.8	
Approach LOS		A			A		B	B		B	B	
Queue Length 50th (ft)	2	54		1	51		9	9		16	16	
Queue Length 95th (ft)	9	123		5	113		29	29		45	45	
Internal Link Dist (ft)		198			132			888			247	
Turn Bay Length (ft)	100			60				1039			1013	
Base Capacity (Vph)	846	1774		826	1883		0	1625		0	1625	
Starvation Cap Reductn	0	203		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.02	0.30		0.01	0.24		0.05	0.05		0.09	0.09	
Intersection Summary												
Area Type	Other											
Cycle Length-100	Other											

Lanes, Volumes, Timings
4: Marlowe Ave & Detroit Ave

One Lakewood Place
2019 Existing - SAT Peak Hour

Actuated Cycle Length: 37.9	Intersection LOS: A
Control Type: Semi Act/Uncoord	ICU Level of Service A
Maximum v/c Ratio: 0.43	
Intersection Signal Delay: 8.0	
Intersection Capacity Utilization: 37.8%	
Analysis Period (min): 15	



HCM 2010 TWSC
5: Lincoln Ave & Detroit Ave

One Lakewood Place
2019 Existing - SAT Peak Hour

Intersection	Int Delay, s/veh	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1.2													
Movement													
Lane Configurations		3	430	19	32	407	5	15	0	18	2	3	6
Trffic Vol, veh/h		3	430	19	32	407	5	15	0	18	2	3	6
Future Vol, veh/h		27	0	33	33	0	27	8	0	3	3	0	8
Conflicting Peds. #/hr		Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Sign Control		Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized		None	None	None	None	None	None	None	None	None	None	None	None
Storage Length		80	-	0	-	0	-	-	-	-	-	-	-
Veh in Median Storage, #		0	-	0	-	0	-	-	-	-	-	-	-
Grade, %		-	0	-	0	-	0	-	-	-	-	-	-
Peak Hour Factor		91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %		0	1	0	0	1	0	0	0	0	0	0	0
Minrt Flow		3	473	21	35	447	5	16	0	20	2	3	7

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	479	0	527	0
Stage 1	-	-	523	523
Stage 2	-	-	533	549
Critical Hdwy	4.1	-	6.7	6.1
Critical Hdwy Sig 1	-	-	5.7	5.1
Critical Hdwy Sig 2	-	-	5.7	5.1
Follow-up Hdwy	2.2	-	3.5	4
Pol Cap-1 Maneuver	1094	-	231	250
Stage 1	-	-	573	568
Stage 2	-	-	567	552
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1071	-	1028	-
Mov Cap-2 Maneuver	-	-	211	231
Stage 1	-	-	589	592
Stage 2	-	-	532	522

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.6	17.7	21.4
HCM LOS	C	C	C	C

Minor Lane/Minor	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	320	1071	-	-	1028	-	-	231
HCM Lane V/C Ratio	0.113	0.003	-	-	0.034	-	-	0.052
HCM Control Delay (s)	17.7	8.4	-	-	8.6	-	-	21.4
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %ile Q(veh)	0.4	0	-	-	0.1	-	-	0.2

Lanes, Volumes, Timings
6: Belle Ave & Franklin Blvd

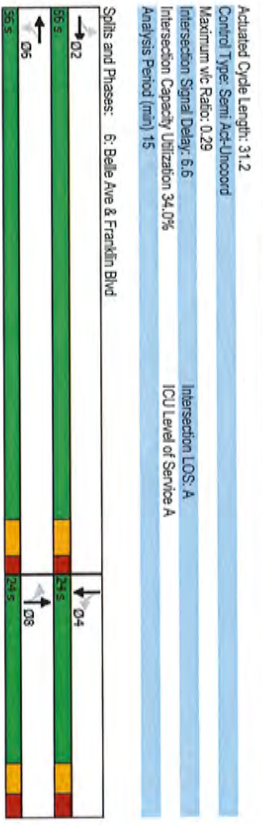
One Lakewood Place
2019 Existing - SAT Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NSR	SBL	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1
Traffic Volume (vph)	10	268	12	11	322	6	7	30	12	21	18
Future Volume (vph)	10	268	12	11	322	6	7	30	12	21	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	10	10	13	10	10	14	14	14	14	14
Grade (%)	0%	0%	0%	0%	0%	0%	-2%	0%	0%	0%	0%
Storage Length (ft)	0	0	0	140	0	0	0	0	0	0	0
Storage Lanes	1	1	1	1	1	1	1	1	1	1	1
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25
Sat'd. Flow (vph)	1865	1744	0	1865	1768	0	0	1912	0	0	1874
Flt. Permitted	0.555	0.555	0	0.581	0.581	0	0	0.936	0	0	0.888
Sat'd. Flow (Perm)	1090	1744	0	1141	1768	0	0	1800	0	0	1692
Right Turn on Red			Yes			Yes			Yes		Yes
Sat'd. Flow (RTOR)		6		2			13		19		19
Link Speed (mph)	35	35	35	35	35	35	35	35	35	35	35
Link Distance (ft)	494	494	494	494	494	494	494	494	494	494	494
Travel Time (s)	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8
Confl. Pts. (#/hr)	5	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Peak Hour Factor	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)											
Lane Group Flow (vph)	10	292	0	11	341	0	0	51	0	0	79
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Prohibited Phases	2			6			8			4	
Permitted Phases	56.0	56.0	56.0	56.0	56.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Act. Effct Green (s)	20.8	20.8	20.8	20.8	20.8	6.6	6.6	6.6	6.6	6.6	6.6
Actuald g/c Ratio	0.67	0.67	0.67	0.67	0.67	0.21	0.21	0.21	0.21	0.21	0.21
w/c Ratio	0.01	0.25	0.01	0.01	0.29	0.13	0.13	0.13	0.13	0.13	0.21
Control Delay	5.4	5.8	5.4	5.4	6.1	9.4	10.1	10.1	10.1	10.1	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.4	5.8	5.4	5.4	6.1	9.4	10.1	10.1	10.1	10.1	10.1
LOS	A	A	A	A	A	A	A	A	A	A	B
Approach Delay	5.8	5.8	5.8	5.8	6.0	9.4	10.1	10.1	10.1	10.1	10.1
Approach LOS	A	A	A	A	A	A	A	A	A	A	B
Queue Length 50th (ft)	1	28	1	1	34	6	6	6	6	6	9
Queue Length 95th (ft)	5	64	6	6	76	21	21	21	21	21	29
Internal Link Dist (ft)		374			205			310			869
Turn Bay Length (ft)				140							
Base Capacity (vph)	1090	1744	0	1141	1768	0	0	1882	0	0	1874
Stenation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.17	0.01	0.01	0.19	0.05	0.05	0.05	0.05	0.05	0.08

Area Type: Other
Cycle Length: 80

Lanes, Volumes, Timings
6: Belle Ave & Franklin Blvd

One Lakewood Place
2019 Existing - SAT Peak Hour



Intersection																
Int Delay, s/veh	2															
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations	14	262	9	12	310	7	11	16	8	8	22	22				
Traffic Vol, veh/h	14	282	9	12	310	7	11	16	8	8	22	22				
Future Vol, veh/h	3	0	1	1	0	3	0	0	1	1	0	0				
Conflicting Peds. #/hr	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop				
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop				
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None				
Storage Length	140	-	-	0	-	0	-	-	-	-	-	-				
Veh in Median Storage #	-	0	-	-	0	-	-	0	-	-	-	-				
Grade, %	-	-1	-	-	-	1	-	-	0	-	-	-1				
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95				
Heavy Vehicles, %	1	0	0	0	0	0	0	0	0	0	0	0				
Mvmt Flow	15	297	9	13	326	7	12	17	8	8	23	23				

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	336	0	0	307
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Flow	4.1	-	-	4.1
Critical Hdwy Sig 1	-	-	-	-
Critical Hdwy Sig 2	-	-	-	-
Follow-up Hdwy	2.2	-	-	2.2
Pkt Cap-1 Maneuver	1231	-	-	1265
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1231	-	-	1264
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.3	15.2	13.9
HCM LOS	C	C	B	B

Minor Lane/Minor Mvmt	NBL	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBT	SBR
Capacity (veh/h)	388	1231	-	-	1264	-	-	460	-	-
HCM Lane V/C Ratio	0.095	0.012	-	-	0.01	-	-	0.119	-	-
HCM Control Delay (s)	15.2	8	-	-	7.9	-	-	13.9	-	-
HCM Lane LOS	C	A	-	-	A	-	-	B	-	-
HCM 95th Pctile D(veh)	0.3	0	-	-	0	-	-	0.4	-	-

2023 No Build Capacity Analysis

APPENDIX - H

Lanes, Volumes, Timings
 1: Warren Rd/Warren Road & Detroit Ave

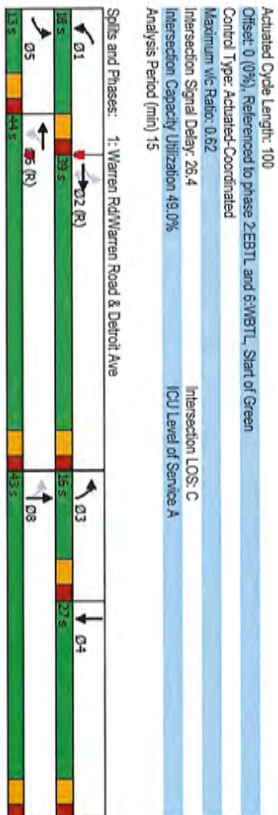
One Lakewood Place
 2023 No Build - AM Peak Hour

Lane Group	EBL	EBT	EER	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SRT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Traffic Volume (vph)	6	238	98	115	167	10	78	111	135	0	160	6
Future Volume (vph)	6	238	98	115	167	10	78	111	135	0	160	6
Lead Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	9	11	12	10	12	12	10	11	11	16	16	16
Grade (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	4%	4%	4%
Storage Length (ft)	60	1	1	80	1	1	160	1	1	0	0	0
Storage Lanes	1	1	1	1	1	1	1	1	1	0	0	0
Taper Length (ft)	25	1774	1575	1843	1770	0	1613	1639	0	0	2057	0
Satd. Flow (prot)	0.629	1774	1494	816	1770	0	551	1639	0	0	2057	0
Fit Permitted	1059	1774	1494	816	1770	0	551	1639	0	0	2057	0
Satd. Flow (perm)	1059	1774	1494	816	1770	0	551	1639	0	0	2057	0
Right Turn on Red	No	No	No	No	No	No	No	No	No	No	No	No
Satd. Flow (RTOR)	No	No	No	No	No	No	No	No	No	No	No	No
Link Speed (mph)	25	351	351	252	252	25	341	341	25	352	352	25
Link Distance (ft)	351	351	351	252	252	25	341	341	25	352	352	25
Travel Time (s)	13	9.6	9.6	22	22	13	9	9.3	10	10	9	9
Confl. Pcts. (#/ft)	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Peak Hour Factor	0%	3%	2%	2%	2%	0%	0%	2%	3%	0%	2%	0%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Lane Group Flow (vph)	7	217	114	134	206	0	91	296	0	0	193	0
Turn Type	pm-Ht	NA	pm-Ht	pm-Ht	NA	pm-Ht	NA	NA	NA	NA	NA	NA
Protected Phases	5	2	2	6	6	8	3	8	4	4	4	4
Permitted Phases	2	2	2	2	2	2	2	2	2	2	2	2
Total Spite (s)	13.0	39.0	39.0	18.0	18.0	44.0	16.0	43.0	27.0	27.0	27.0	27.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Act. Effici. Green (s)	53.2	47.4	47.4	61.8	61.8	59.5	28.0	28.0	15.7	15.7	15.7	15.7
Actuated g/C Ratio	0.53	0.47	0.47	0.62	0.62	0.60	0.28	0.28	0.16	0.16	0.16	0.16
Wt-Ratio	0.01	0.33	0.16	0.23	0.23	0.20	0.36	0.62	0.60	0.60	0.60	0.60
Control Delay	10.8	20.6	19.2	10.8	12.7	28.8	36.3	47.1	47.1	47.1	47.1	47.1
Queue Delay	0.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.8	20.6	19.2	11.8	13.9	28.8	36.3	47.1	47.1	47.1	47.1	47.1
LOS	B	B	C	B	B	B	C	D	D	D	D	D
Approach Delay	20.0	20.0	20.0	13.1	13.1	34.5	34.5	47.1	47.1	47.1	47.1	47.1
Approach LOS	B	B	C	B	B	B	C	D	D	D	D	D
Queue Length 50th (ft)	2	109	41	34	54	43	158	117	117	117	117	117
Queue Length 95th (ft)	8	200	89	71	132	69	201	170	170	170	170	170
Internal Link Dist (ft)	271	271	271	172	172	261	261	261	261	261	261	261
Turn Bay Length (ft)	80	841	708	610	1052	273	621	621	621	621	621	621
Base Capacity (vph)	629	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Stallion Cap Reducn	0	0	0	0	0	0	0	0	0	0	0	0
Sprinkler Cap Reducn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reducn	0	0	0	0	0	0	0	0	0	0	0	0
Reducn v/c Ratio	0.01	0.33	0.16	0.42	0.50	0.33	0.46	0.46	0.46	0.46	0.46	0.46

Area Type: Other
 Cycle Length: 100

Lanes, Volumes, Timings
 1: Warren Rd/Warren Road & Detroit Ave

One Lakewood Place
 2023 No Build - AM Peak Hour



Lanes, Volumes, Timings
2: St Charles Ave & Detroit Ave

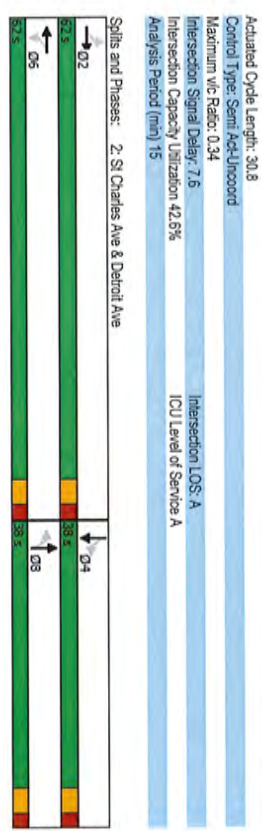
One Lakewood Place
2023 No Build - AM Peak Hour

Area Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Traffic Volume (vph)	66	279	26	31	253	13	13	54	40	9	36	28
Future Volume (vph)	66	279	26	31	253	13	13	54	40	9	36	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	15	15	10	12	12	10	10	10	13	13	13
Grade (%)	-1%			1%			-1%			2%		
Storage Length (ft)	80	0	0	70	0	0	0	0	0	0	0	0
Storage Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Taper Length (ft)	25			25			25			25		
Sat. Flow (pcu/h)	1935	1971	0	1827	1799	0	0	1603	0	0	1805	0
Fit Permitted	0.572			0.549			0.943			0.838		
Sat. Flow (perm)	1153	1971	0	933	1799	0	0	1518	0	0	1697	0
Right Turn on Red			Yes			Yes			Yes			Yes
Sat. Flow (RTOR)			8			4			32			33
Link Speed (mph)	25			25			25		25			25
Link Distance (ft)	252			272			401		313			313
Travel Time (s)	6.9			7.4			10.9		8.5			8.5
Confl. Pct. (#/h)	18	15	15	15	18	12	12	41	41	41	41	12
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	5%	4%	3%	4%	8%	8%	4%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	77	354	0	36	309	0	0	125	0	0	65	0
Turn Type	Perm	NA	Perm	NA	NA	Perm	NA	NA	Perm	NA	NA	4
Prohibited Phases	2			6			8		4			4
Permitted Phases	62.0	62.0	62.0	62.0	62.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0
Total Spilt (s)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Total Lost Time (s)	16.4	16.4	16.4	16.4	16.4	7.5	7.5	7.5	7.5	7.5	7.5	7.5
Act Effect Green (s)	0.53	0.53	0.53	0.53	0.53	0.24	0.24	0.24	0.24	0.24	0.24	0.24
Actuated g/c Ratio	0.13	0.34	0.07	0.32	0.07	0.32	0.07	0.32	0.07	0.32	0.07	0.32
w/c Ratio	6.6	7.3	6.3	7.4	6.3	7.4	10.1	7.8	7.8	7.8	7.8	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	6.6	7.3	6.3	7.4	6.3	7.4	10.1	7.8	7.8	7.8	7.8	7.8
Total Delay	6.6	7.3	6.3	7.4	6.3	7.4	10.1	7.8	7.8	7.8	7.8	7.8
LOS	A	A	A	A	A	B	B	A	A	A	A	A
Approach Delay	7.1			7.3			10.1		7.8			7.8
Approach LOS	A			A			B		A			A
Queue Length 50th (ft)	7	34	3	29			10		5			5
Queue Length 95th (ft)	22	76	13	69			38		26			26
Internal Link Dist (ft)	172			192			321		233			233
Turn Bay Length (ft)	80			70								
Base Capacity (vph)	1153	1971	933	1799	1465	1660	1660	1660	1660	1660	1660	1660
Stenation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced w/c Ratio	0.07	0.19	0.04	0.17	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08

Area Type: Other
Cycle Length: 100

Lanes, Volumes, Timings
2: St Charles Ave & Detroit Ave

One Lakewood Place
2023 No Build - AM Peak Hour



Area Type: Other
Cycle Length: 100

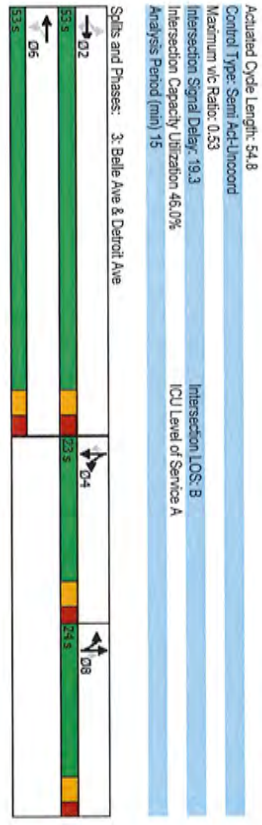
Lanes, Volumes, Timings
 3: Belle Ave & Detroit Ave

One Lakewood Place
 2023 No Build - AM Peak Hour

Area Type:	Other	Cycle Length: 100																		
Queue Length 50th (ft)	10	84	0	10	82	38	0	49	0											
Queue Length 95th (ft)	31	164	8	32	161	94	9	112	14											
Internal Link Dist (ft)	192				198			134												
Turn Bay Length (ft)	100	100	100	100																
Base Capacity (vph)	705	1459	1347	705	1442	629	584	621	534											
Stationing Cap Reduction	0	0	0	0	0	0	0	0	0											
Storage Cap Reduction	0	0	0	0	0	0	0	0	0											
Reduced v/c Ratio	0.06	0.23	0.04	0.06	0.24	0.22	0.09	0.28	0.12											

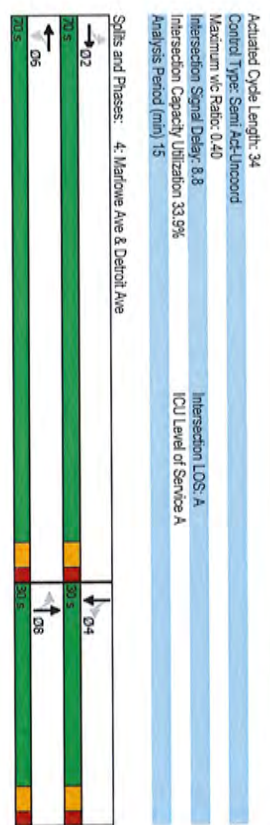
Lanes, Volumes, Timings
 3: Belle Ave & Detroit Ave

One Lakewood Place
 2023 No Build - AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	2	2	1	2	2	1	1	1	1	1	1
Traffic Volume (Vph)	15	301	2	8	270	17	10	37	16	32	40	13
Future Volume (Vph)	15	301	2	8	270	17	10	37	16	32	40	13
Ideal Flow (Vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	11	10	12	12	11	11	11	11	11	11
Grade (%)	2%			0%			-3%				6%	
Storage Length (ft)	100	0	0	60	0	0	0	0	0	0	0	0
Taper Length (ft)	1	1	1	1	1	1	1	1	1	1	1	1
Sat'd Flow (prot)	1688	1734	0	1504	1811	0	1687	0	0	1685	0	0
Flt Permitted	0.538			0.527			0.923			0.841		
Sat'd Flow (perm)	940	1734	0	831	1811	0	1578	0	0	1440	0	0
Right Turn on Red			No			No		No			No	
Sat'd Flow (RTOR)												
Link Speed (mph)	25			25			25			25		
Link Distance (ft)	278			272			234			327		
Travel Time (s)	7.6			5.8			6.4			8.9		
Confl. Pct. (#/h)	12	11	11	11	12	2	2	3	3	3	2	2
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	0%	4%	100%	12%	4%	0%	10%	0%	12%	0%	0%	9%
Shared Lane Traffic (%)												
Lane Group Flow (Vph)	20	399	0	11	377	0	0	83	0	0	112	0
Turn Type	Perm	NA	Perm	NA	NA	Perm	NA	Perm	NA	Perm	NA	NA
Prohibited Phases	2			6			8			4		
Permitted Phases	7.0.0	7.0.0		7.0.0	7.0.0		3.0.0			3.0.0		3.0.0
Total Spill (s)	5.1	5.1		5.1	5.1		5.1			5.1		5.1
Total Lost Time (s)	19.5	19.5		19.5	19.5		8.1			8.2		8.2
Act Effect Green (s)	0.57	0.57		0.57	0.57		0.24			0.24		0.24
Actuated g/C Ratio	0.04	0.40		0.02	0.36		0.22			0.32		0.32
v/c Ratio	5.7	7.9		5.6	7.5		12.9			14.4		14.4
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0		0.0
Total Delay	5.7	7.9		5.6	7.5		12.9			14.4		14.4
LOS	A	A		A	A		B			B		B
Approach Delay	7.8			7.4			12.9			14.4		14.4
Approach LOS	A			A			B			B		B
Queue Length 50th (ft)	2	43		1	40		10			14		14
Queue Length 95th (ft)	8	82		5	76		33			43		43
Internal Link Dist (ft)	198			132			154			247		247
Turn Bay Length (ft)	100			60			1182			1079		1079
Base Capacity (Vph)	940	1734		831	1811							
Stationing Cap Reductn	0	59		0	0		0			0		0
Spillback Cap Reductn	0	0		0	0		0			0		0
Storage Cap Reductn	0	0		0	0		0			0		0
Reduced v/c Ratio	0.02	0.24		0.01	0.21		0.07			0.10		0.10

Area Type: Other
 Cycle Length: 100
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Langan 04/16/2019 Synchro 10 Report Page 8

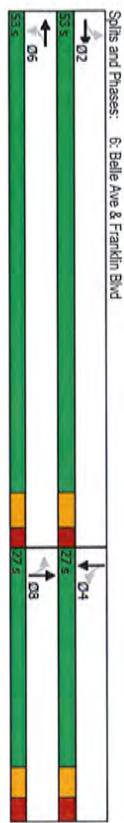
Intersection	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Int'l Delay, s/veh	1.3											
Major/Minor	Major1	Major2	Major2	Major1	Minor1	Minor2						
Conflicting Flow All	333	0	468	0	472	472	437	437	437	437	437	437
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Flow	4.1	-	4.1	-	6.7	6.1	6	8.3	7.7	6.8	-	-
Critical Flow Sig 1	-	-	-	-	5.7	5.1	-	7.3	6.7	-	-	-
Critical Flow Sig 2	-	-	-	-	5.7	5.1	-	7.3	6.7	-	-	-
Follow-up Hwy	2.2	-	2.2	-	3.5	4	3.3	3.5	4	3.3	-	-
Port Cap-1 Maneuver	1187	-	1104	-	287	305	618	184	203	631	-	-
Stage 1	-	-	-	-	607	593	-	520	504	-	-	-
Stage 2	-	-	-	-	635	610	-	479	478	-	-	-
Platoon blocked %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1179	-	1099	-	274	293	615	164	195	626	-	-
Mov Cap-2 Maneuver	-	-	-	-	274	293	-	164	195	-	-	-
Stage 1	-	-	-	-	602	599	-	514	487	-	-	-
Stage 2	-	-	-	-	608	590	-	439	475	-	-	-
Approach	EB	WB	WB	NB	NB	SB						
HCM Control Delay, s	0.1	0.6		12.9	14.2							
HCM LOS	B	B		B	B							
Minor Lane/Minor Mvmt	NBL/1	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Capacity (veh/h)	515	1179	-	-	1099	-	-	402	-	-	-	-
HCM Lane V/C Ratio	0.111	0.003	-	-	0.026	-	-	0.029	-	-	-	-
HCM Control Delay (s)	12.9	8.1	-	-	8.4	-	-	14.2	-	-	-	-
HCM Lane LOS	B	A	-	-	A	-	-	B	-	-	-	-
HCM 95th %ile Q(veh)	0.4	0	-	-	0.1	-	-	0.1	-	-	-	-

Area Type:	Other
Cycle Length: 80	
Intersection Summary	
Area Type:	Other
Capacity (veh/h)	719
Spillover Cap Reducn	0
Storage Cap Reducn	0
Reduced v/c Ratio	0.16
Permitted Phases	2
Total Spill (s)	53.0
Total Lost Time (s)	5.5
Act Effct Green (s)	17.9
Actuated g/c Ratio	0.43
v/c Ratio	0.37
Control Delay	12.0
Queue Delay	0.0
Total Delay	12.0
LOS	B
Approach Delay	13.3
Approach LOS	B
Queue Length 50th (ft)	17
Queue Length 95th (ft)	43
Internal Link Dist (ft)	374
Turn Bay Length (ft)	140
Base Capacity (veh/h)	1673
Spillover Cap Reducn	0
Storage Cap Reducn	0
Reduced v/c Ratio	0.16
Permitted Phases	2
Total Spill (s)	53.0
Total Lost Time (s)	5.5
Act Effct Green (s)	17.9
Actuated g/c Ratio	0.43
v/c Ratio	0.37
Control Delay	12.0
Queue Delay	0.0
Total Delay	12.0
LOS	B
Approach Delay	13.3
Approach LOS	B
Queue Length 50th (ft)	17
Queue Length 95th (ft)	43
Internal Link Dist (ft)	374
Turn Bay Length (ft)	140
Base Capacity (veh/h)	1673
Spillover Cap Reducn	0
Storage Cap Reducn	0
Reduced v/c Ratio	0.16

Lanes, Volumes, Timings
6: Belle Ave & Franklin Blvd

One Lakewood Place
2023 No Build - AM Peak Hour

Actuated Cycle Length: 41.7
Control Type: Semi Act-Uncorrd
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 14.3
Intersection Capacity Utilization: 58.7%
Analysis Period (min): 15
Intersection LOS: B
ICU Level of Service: B



HCM 2010 TWSC
7: Marlowe Ave & Franklin Blvd

One Lakewood Place
2023 No Build - AM Peak Hour

Intersection	Int Delay, s/veh	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Intersection	5.3												
Int Delay, s/veh													
Movement													
Lane Configurations													
Traffic Vol, veh/h	15	359	6	5	316	24	9	48	7	12	24	13	
Future Vol, veh/h	15	359	6	5	316	24	9	48	7	12	24	13	
Conflicting Peds, #/hr	11	0	28	28	0	11	1	0	0	0	0	1	
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None	
Storage Length	140	0	0	0	0	0	0	0	0	0	0	0	
Ven in Median Storage, #	0	0	0	0	0	0	0	0	0	0	0	0	
Grade, %	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	
Peak Hour Factor	67	67	67	67	67	67	67	67	67	67	67	67	
Heavy Vehicles, %	0	2	0	0	0	10	0	3	0	10	9	0	
Mount Flow	22	538	9	7	472	36	13	72	10	18	38	19	

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	519	0	573	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Heavy	4.1	-	4.1	-
Critical Hdwy Sg 1	-	-	-	-
Critical Hdwy Sg 2	-	-	-	-
Follow-up Hdwy	2.2	-	2.2	-
Pot Cap-1 Maneuver	1057	-	1010	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon Blocked, %	-	-	-	-
Man Cap-1 Maneuver	1045	-	981	-
Man Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	41.7	32.8
HCM LOS	E	E	D	D

Minor Lane/Minor Mount	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBT	SBR
Capacity (veh/h)	190	1045	-	-	981	-	-	-	-	201
HCM Lane V/C Ratio	0.503	0.021	-	-	0.008	-	-	-	-	0.364
HCM Control Delay (s)	41.7	8.5	-	-	8.7	-	-	-	-	32.8
HCM Lane LOS	E	A	-	-	A	-	-	-	-	D
HCM satn (s/veh)	2.5	0.1	-	-	0	-	-	-	-	1.6

HCM 2010 TWSC
8: Belle Ave & Northern Garage Entrance

One Lakewood Place
2023 No Build - AM Peak Hour

Intersection							
Int Delay, s/veh	0.9						
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	W	T	T	T	T	T	
Traffic Vol, veh/h	7	7	160	17	17	78	
Future Vol, veh/h	7	7	160	17	17	78	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	None	-	None	-	None	
Storage Length	0	-	-	-	-	-	
Veh in Median Storage #	0	-	0	-	-	0	
Grade, %	0	-	1	-	-	-1	
Peak Hour Factor	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	8	8	174	18	18	85	
Major/Minor	Minor1	Major1	Major2	Major2	0	0	
Conflicting Flow All	304	183	0	192	0	0	
Stage 1	121	-	-	-	-	-	
Stage 2	6.42	6.22	-	4.12	-	-	
Critical Hdwy	5.42	-	-	-	-	-	
Critical Hdwy Sig 1	5.42	-	-	-	-	-	
Critical Hdwy Sig 2	3.518	3.318	-	2.218	-	-	
Follow-up Hdwy	688	839	-	1381	-	-	
Pl Cap-1 Maneuver	848	-	-	-	-	-	
Stage 1	904	-	-	-	-	-	
Stage 2	-	-	-	-	-	-	
Platoon blocked, %	-	-	-	-	-	-	
Mov Cap-1 Maneuver	678	859	-	1381	-	-	
Mov Cap-2 Maneuver	678	-	-	-	-	-	
Stage 1	836	-	-	-	-	-	
Stage 2	904	-	-	-	-	-	
Approach	WB	NB	NB	SB	SB	SB	
HCM Control Delay, s	9.8	0	0	1.4	1.4	1.4	
HCM LOS	A						
Minor Lane/Minor Mvmt	NBT	NBR/BLR1	SBL	SBT			
Capacity (veh/h)	-	758	1381	-	-	-	
HCM Lane V/C Ratio	-	0.02	0.013	-	-	-	
HCM Control Delay (s)	-	9.8	7.6	0	-	-	
HCM Lane LOS	-	A	A	A	-	-	
HCM 95th %ile Q(veh)	-	0.1	0	-	-	-	

HCM 2010 TWSC
9: Belle Ave & Southern Garage Entrance

One Lakewood Place
2023 No Build - AM Peak Hour

Intersection							
Int Delay, s/veh	0.9						
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	W	T	T	T	T	T	
Traffic Vol, veh/h	7	7	171	17	17	68	
Future Vol, veh/h	7	7	171	17	17	68	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	None	-	None	-	None	
Storage Length	0	-	-	-	-	-	
Veh in Median Storage #	0	-	0	-	-	0	
Grade, %	0	-	-2	-	-	1	
Peak Hour Factor	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	8	8	185	18	18	74	
Major/Minor	Minor1	Major1	Major2	Major2	0	0	
Conflicting Flow All	305	195	0	204	0	0	
Stage 1	110	-	-	-	-	-	
Stage 2	6.42	6.22	-	4.12	-	-	
Critical Hdwy	5.42	-	-	-	-	-	
Critical Hdwy Sig 1	5.42	-	-	-	-	-	
Critical Hdwy Sig 2	3.518	3.318	-	2.218	-	-	
Follow-up Hdwy	687	846	-	1368	-	-	
Pl Cap-1 Maneuver	838	-	-	-	-	-	
Stage 1	915	-	-	-	-	-	
Stage 2	-	-	-	-	-	-	
Platoon blocked, %	-	-	-	-	-	-	
Mov Cap-1 Maneuver	677	846	-	1368	-	-	
Mov Cap-2 Maneuver	677	-	-	-	-	-	
Stage 1	826	-	-	-	-	-	
Stage 2	915	-	-	-	-	-	
Approach	WB	NB	NB	SB	SB	SB	
HCM Control Delay, s	9.9	0	0	1.5	1.5	1.5	
HCM LOS	A						
Minor Lane/Minor Mvmt	NBT	NBR/BLR1	SBL	SBT			
Capacity (veh/h)	-	752	1368	-	-	-	
HCM Lane V/C Ratio	-	0.02	0.014	-	-	-	
HCM Control Delay (s)	-	9.9	7.7	0	-	-	
HCM Lane LOS	-	A	A	A	-	-	
HCM 95th %ile Q(veh)	-	0.1	0	-	-	-	

HCM 2010 TWSC
10: Marlowe Ave & Northern Garage Entrance

One Lakewood Place
2023 No Build - AM Peak Hour

Intersection									
Int Delay, s/veh	0								
Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations	1	0	0	0	4	4	1	1	0
Traffic Vol, veh/h	0	0	0	0	7	17	0	0	0
Future Vol, veh/h	0	0	0	0	7	17	0	0	0
Conflicting Peds. #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None	-	None	-
Storage Length	0	-	-	-	-	-	-	-	-
Van in Median Storage, #	0	-	-	0	0	0	-	-	-
Grade, %	0	-	-	-	1	-1	-	-	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	8	18	0	0	0

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	26	18	18	0	0
Stage 1	18	-	-	-	-
Stage 2	8	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Sg 1	5.42	-	-	-	-
Critical Hdwy Sg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Plat Cap-1 Maneuver	989	1061	1599	-	-
Stage 1	1005	-	-	-	-
Stage 2	1015	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	889	1061	1599	-	-
Mov Cap-2 Maneuver	889	-	-	-	-
Stage 1	1005	-	-	-	-
Stage 2	1015	-	-	-	-

Approach	EB	NB	SB		
HCM Control Delay, s	0	0	0	0	0
HCM LOS	A				

HCM 2010 TWSC
11: Marlowe Ave & Southern Garage Entrance

One Lakewood Place
2023 No Build - AM Peak Hour

Intersection									
Int Delay, s/veh	6								
Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations	1	0	0	0	4	4	1	1	0
Traffic Vol, veh/h	7	14	34	0	0	17	0	0	0
Future Vol, veh/h	7	14	34	0	0	17	0	0	0
Conflicting Peds. #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None	-	None	-
Storage Length	0	-	-	-	-	-	-	-	-
Van in Median Storage, #	0	-	-	0	0	0	-	-	-
Grade, %	0	-	-	-	1	-1	-	-	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	15	37	0	0	18	0	0	0

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	83	9	18	0	0
Stage 1	9	-	-	-	-
Stage 2	74	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Sg 1	5.42	-	-	-	-
Critical Hdwy Sg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Plat Cap-1 Maneuver	919	1073	1599	-	-
Stage 1	1014	-	-	-	-
Stage 2	949	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	898	1073	1599	-	-
Mov Cap-2 Maneuver	898	-	-	-	-
Stage 1	991	-	-	-	-
Stage 2	949	-	-	-	-

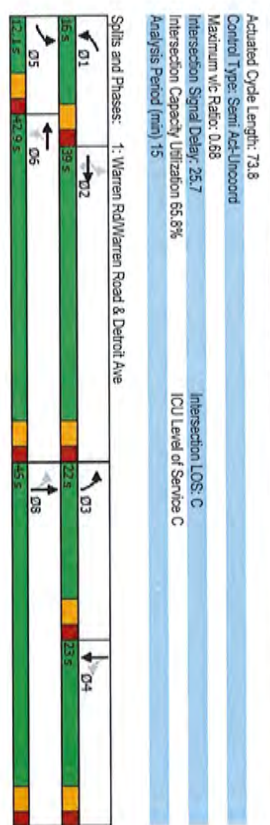
Approach	EB	NB	SB		
HCM Control Delay, s	8.7	7.3	0	0	0
HCM LOS	A				

Lanes, Volumes, Timings
 1: Warren Rd/Warren Road & Detroit Ave
 One Lakewood Place
 2023 No Bid - PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Traffic Volume (vph)	19	291	132	147	337	16	198	134	141	1	149	22
Future Volume (vph)	19	291	132	147	337	16	198	134	141	1	149	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	9	11	12	10	12	12	10	11	11	16	16	16
Grade (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Storage Length (ft)	60	60	60	60	60	0	160	0	0	0	0	0
Taper Length (ft)	1	1	1	1	1	0	1	0	0	0	0	0
Sat. Flow (pc/h)	1599	1809	1575	1690	1836	0	1893	1664	0	0	2032	0
Flt. Permitted	0.523			0.332			0.328				0.998	
Sat. Flow (pc/h)	825	1809	1464	568	1836	0	580	1664	0	0	2028	0
Right Turn on Red						No				No		No
Sat. Flow (RTOR)												
Link Speed (mph)	25			25			25			25		25
Link Distance (ft)	331			252			341			332		332
Travel Time (s)	9.6			6.9			9.3			9.1		9.1
Cont. Peds. (ft/h)	40	35	35	35	40	9	13	13	13	13	13	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	1%	2%	1%	2%	0%	1%	2%	1%	0%	1%	5%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	316	143	153	383	0	215	299	0	0	187	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	NA	pm+pt	NA	NA	Perm	NA	NA
Protected Phases	5	2		1	6	3	8			4		4
Permitted Phases	2		2	6			8			4		4
Total Split (s)	12.1	39.0	36.0	16.0	42.9		22.0			23.0		23.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1		5.1			5.1		5.1
Act. Effct Green (s)	25.3	19.0	19.0	33.3	29.7		29.5			12.3		12.3
Actuated g/C Ratio	0.34	0.26	0.26	0.45	0.40		0.40			0.17		0.17
W/C Ratio	0.08	0.68	0.38	0.39	0.52		0.52			0.45		0.55
Control Delay	13.3	33.7	27.1	16.0	22.5		21.5			37.7		37.7
Queue Delay	0.0	0.0	0.0	0.5	1.3		0.0			0.0		0.0
Total Delay	13.3	33.7	27.1	16.5	23.8		21.5			37.7		37.7
LOS	B	C	C	C	B		C			B		D
Approach Delay		30.9			21.7		20.6			37.7		37.7
Approach LOS		C			C		C			D		D
Queue Length 50th (ft)	5	128	53	39	112		65			96		79
Queue Length 95th (ft)	19	247	118	90	285		142			201		172
Internal Link Dist (ft)		271			172		261			252		252
Turn Bay Length (ft)	60	888	703	80	983		498			940		514
Base Capacity (vph)	364	888	703	425	983		498			940		514
Start/Stop Cap. Reductn	0	0	0	0	78		393			0		0
Storage Cap. Reductn	0	0	0	0	0		0			0		0
Reduced v/c Ratio	0.06	0.36	0.20	0.44	0.65		0.43			0.32		0.38

Intersection Summary:
 Area Type: Other
 Cycle Length: 100
 Langan 04/16/2019 Synchro 10 Report Page 1

Lanes, Volumes, Timings
 1: Warren Rd/Warren Road & Detroit Ave
 One Lakewood Place
 2023 No Bid - PM Peak Hour



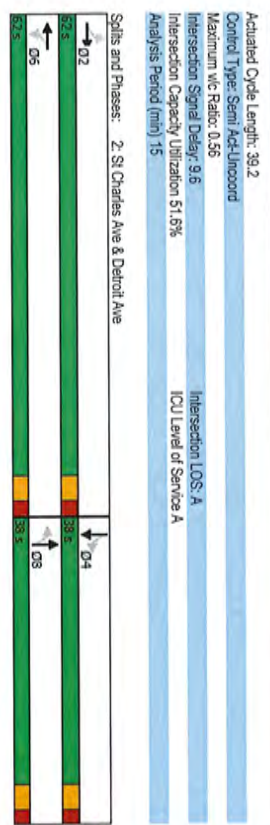
Activated Cycle Length: 73.8
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.68
 Intersection Signal Delay: 25.7
 Intersection Capacity Utilization: 65.8%
 ICU Level of Service: C
 Analysis Period (min): 15
 Splits and Phases: 1: Warren Rd/Warren Road & Detroit Ave
 Langan 04/16/2019 Synchro 10 Report Page 2

Lanes, Volumes, Timings
 2- St Charles Ave & Detroit Ave
 One Lakewood Place
 2023 No Build - PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Traffic Volume (vph)	39	357	36	37	421	32	17	39	20	22	62	60
Future Volume (vph)	39	357	36	37	421	32	17	39	20	22	62	60
Ideal Flow (veh/pl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	15	15	10	12	12	10	10	10	13	13	13
Grade (%)	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%
Storage Length (ft)	80	0	0	70	0	0	0	0	0	0	0	0
Storage Lanes	1	0	0	1	0	0	0	0	0	0	0	0
Taper Length (ft)	25	0	0	25	0	0	25	0	0	0	25	0
Satd. Flow (prot)	1879	2044	0	1876	1829	0	0	1659	0	0	1766	0
Fit Permitted	0.412	0	0	0.473	0	0	0.897	0	0	0	0.936	0
Satd. Flow (perm)	803	2044	0	824	1829	0	0	1497	0	0	1662	0
Right Turn on Red			Yes			Yes		Yes			Yes	
Satd. Flow (RTOR)	8	0	0	6	0	0	20	0	0	0	38	0
Link Speed (mph)	25	25	25	25	25	25	25	25	25	25	25	25
Link Distance (ft)	232	232	232	272	272	272	146	146	146	313	313	313
Travel Time (s)	6.9	6.9	6.9	7.4	7.4	7.4	4.0	4.0	4.0	8.5	8.5	8.5
Cont. Peds. (ft/hr)	39	28	28	28	39	21	23	23	23	23	21	21
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	1%	0%	0%	2%	0%	0%	3%	0%	0%	2%	0%
Shared Lane Traffic (%)												
Lane Group Flow (veh)	44	447	0	42	514	0	0	86	0	0	163	0
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases	2	2	2	6	6	6	8	8	8	8	4	4
Permitted Phases	62.0	62.0	62.0	62.0	62.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0
Total Spilt (s)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Total Lost Time (s)	19.8	19.8	19.8	19.8	19.8	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Act/Eff Green (s)	0.51	0.51	0.51	0.51	0.51	0.23	0.23	0.23	0.23	0.23	0.23	0.23
Activated g/C Ratio	0.11	0.43	0.10	0.56	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24
w/C Ratio	6.5	8.0	6.4	9.8	12.2	13.4	13.4	13.4	13.4	13.4	13.4	13.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay/	6.5	8.0	6.4	9.8	12.2	13.4	13.4	13.4	13.4	13.4	13.4	13.4
Total Delay	6.5	8.0	6.4	9.8	12.2	13.4	13.4	13.4	13.4	13.4	13.4	13.4
LOS	A	A	A	A	A	B	B	B	B	B	B	B
Approach Delay	7.9	7.9	7.9	9.5	9.5	12.2	12.2	12.2	12.2	12.2	13.4	13.4
Approach LOS	A	A	A	A	A	B	B	B	B	B	B	B
Queue Length 50th (ft)	4	50	4	4	62	10	10	10	10	10	19	19
Queue Length 95th (ft)	17	114	16	16	145	40	40	40	40	40	65	65
Internal Link Dist (ft)	172	172	172	192	192	66	66	66	66	66	233	233
Turn Bay Length (ft)	80	80	80	70	70	1277	1277	1277	1277	1277	1420	1420
Base Capacity (vph)	803	2044	824	1829	1829	1277	1277	1277	1277	1277	1420	1420
Starvation Cap Reductn	0	286	0	133	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced w/C Ratio	0.05	0.26	0.05	0.05	0.30	0.07	0.07	0.07	0.07	0.07	0.11	0.11

Area Type: Other
 Cycle Length: 100
 Langan 04/16/2019 Synchro 10 Report Page 3

Lanes, Volumes, Timings
 2- St Charles Ave & Detroit Ave
 One Lakewood Place
 2023 No Build - PM Peak Hour



Langan 04/16/2019 Synchro 10 Report Page 4

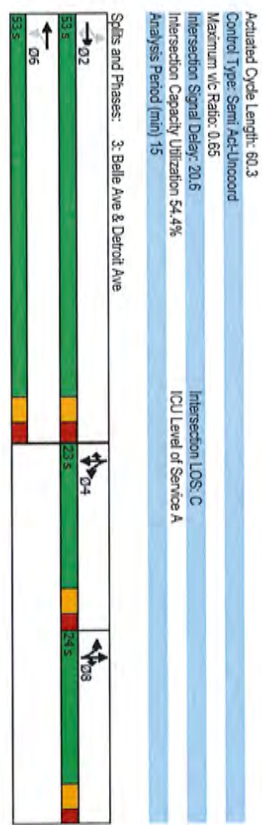
Lanes, Volumes, Timings
3: Belle Ave & Detroit Ave

One Lakewood Place
2023 No Build - PM Peak Hour

Area Type:	Other								
Cycle Length: 100									
Area Type:	Other								
Queue Length 50th (ft)	9	103	0	7	132	58	0	38	0
Queue Length 95th (ft)	34	224	5	28	286	149	6	107	39
Internal Link Dist (ft)	192				198	94			226
Turn Bay Length (ft)	100	1373	1226	642	1351	598	571	582	559
Base Capacity (vph)	0	222	0	0	201	0	0	0	0
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.32	0.03	0.05	0.39	0.30	0.07	0.20	0.16

Lanes, Volumes, Timings
3: Belle Ave & Detroit Ave

One Lakewood Place
2023 No Build - PM Peak Hour



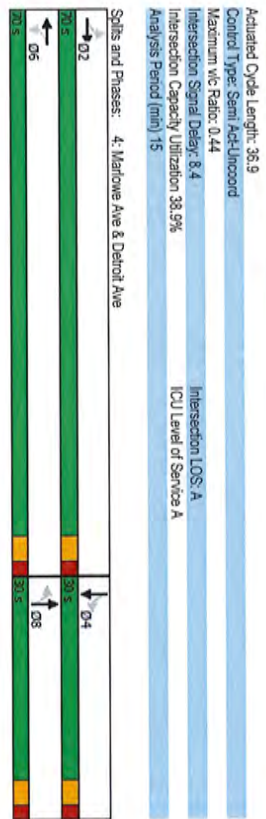
Lanes, Volumes, Timings
4: Marlowe Ave & Detroit Ave

One Lakewood Place
2023 No Build - PM Peak Hour

Area Type:	Other											
Cycle Length: 100												
EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	20	3S1	19	18	417	23	13	38	7	24	48	16
Traffic Volume (Vph)	20	351	19	16	417	23	13	38	7	24	48	16
Future Volume (Vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Idea Flow (Vphpl)	10	11	11	10	12	12	11	11	11	11	11	11
Lane Width (ft)	10	11	11	10	12	12	11	11	11	11	11	11
Grade (%)	2%			0%			-3%					6%
Storage Length (ft)	100	0	0	80	0	0	0	0	0	0	0	0
Storage Lanes	1	1	0	1	0	0	0	0	0	0	0	0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1668	1766	0	1685	1843	0	1775	0	0	1708	0	0
PI Permitted	0.455			0.519			0.883			0.885		
Satd. Flow (perm)	794	1766	0	907	1843	0	1602	0	0	1527	0	0
Right Turn on Red	No			No			No			No		
Satd. Flow (RTOR)												
Link Speed (mph)	25			25			25			25		
Link Distance (ft)	278			212			184			327		
Travel Time (s)	7.6			3.8			5.0			8.9		
Confl. Pcts. (#/hr)	16	34	34	16	16	1	5	5	5	5	1	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	2%	0%	0%	2%	4%	8%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	415	0	18	495	0	0	66	0	0	99	0
Turn Type	Perm	NA	Perm	NA	NA	Perm	NA	NA	Perm	NA	NA	NA
Protected Phases	2			6			8			4		
Total Split (s)	70.0	70.0	70.0	70.0	70.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Act Effect Green (s)	22.7	22.7	22.7	22.7	22.7	7.9	0.21	0.22	0.22	0.22	0.22	0.22
Actuated g/C Ratio	0.62	0.62	0.62	0.62	0.62	0.44	0.19	0.30	0.30	0.30	0.30	0.30
W/C Ratio	0.05	0.38		0.03	0.44		0.19	0.30	0.30	0.30	0.30	0.30
Control Delay	5.3	7.0		5.2	7.5		14.2	15.7	15.7	15.7	15.7	15.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.3	7.1		5.2	7.5		14.2	15.7	15.7	15.7	15.7	15.7
LOS	A	A		A	A		B	B	B	B	B	B
Approach Delay		7.0		7.4			14.2	15.7		15.7		
Approach LOS		A		A			B	B		B		
Queue Length 50th (ft)	2	45		2	57		10	16		16		
Queue Length 95th (ft)	9	103		8	127		36	50		50		
Internal Link Dist. (ft)		198			132		104			247		
Turn Bay Length (ft)	100			60								
Base Capacity (vph)	794	1766		907	1843		1109			1057		
Starvation Cap Reductn	0	155		0	0		0	0		0		
Spinback Cap Reductn	0	0		0	0		0	0		0		
Storage Cap Reductn	0	0		0	0		0	0		0		
Reduced W/C Ratio	0.03	0.26		0.02	0.27		0.06			0.09		

Lanes, Volumes, Timings
4: Marlowe Ave & Detroit Ave

One Lakewood Place
2023 No Build - PM Peak Hour



Activated Cycle Length: 36.9
Control Type: Semi-Actuated
Maximum W/C Ratio: 0.44
Intersection Signal Delay: 8.4
Intersection Capacity Utilization: 38.9%
ICU Level of Service A
Analysis Period (min): 15

Signal Phases: 4: Marlowe Ave & Detroit Ave

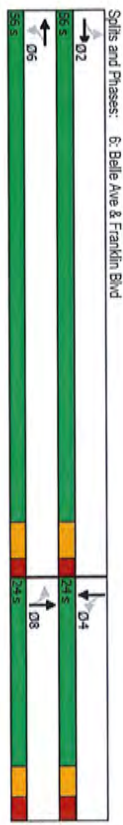
Intersection	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Int'l Delay, s/veh	1.9											
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Vol, veh/h	9	375	16	46	427	8	9	0	26	9	6	16
Future Vol, veh/h	9	375	16	46	427	8	9	0	26	9	6	16
Conflicting Peds #/hr	30	0	19	19	0	30	4	0	1	1	0	4
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	-	-	-	-
Storage Length	80	-	0	-	0	-	-	-	-	-	-	-
Veh In Median Storage, #	-	0	-	-	0	-	-	-	-	-	-	-
Grade, %	-	0	-	-	0	-	-	-	-	-	-	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles %	0	1	0	0	1	0	0	0	0	0	0	0
Mgmt Flow	10	431	18	53	491	9	10	0	30	10	7	18
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	530	0	468	0	1097	1115	460	1108	1120	530		
Stage 1	-	-	-	-	-	-	479	479	632	632	-	-
Stage 2	4.1	-	4.1	-	4.1	-	618	636	476	488	-	-
Critical Hwy	-	-	-	-	-	-	6.7	6.1	6	8.3	7.7	6.8
Critical Hwy Sig 1	-	-	-	-	-	-	5.7	5.1	-	7.3	6.7	-
Critical Hwy Sig 2	2.2	-	2.2	-	2.2	-	3.5	4	3.3	3.5	4	3.3
Follow-Up Hwy	1048	-	1104	-	1104	-	217	237	621	131	143	506
Plat Cap-1 Maneuver	-	-	-	-	-	-	603	589	-	382	366	-
Stage 1	-	-	-	-	-	-	514	510	-	489	470	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1023	-	1091	-	1091	-	189	215	613	116	130	492
Mov Cap-2 Maneuver	-	-	-	-	-	-	189	215	-	116	130	-
Stage 1	-	-	-	-	-	-	590	576	-	369	358	-
Stage 2	-	-	-	-	-	-	460	473	-	460	460	-
Approach	EB	WB	WB	EB	EB	WB	NB	NB	SB	SB	EB	EB
HCM Control Delay, s	0.2	0.8	0.8	0.8	0.8	0.8	15.3	15.3	27.1	27.1	D	D
HCM LOS	C	C	C	C	C	C	C	C	D	D	D	D
Minor Lane/Minor Mvmt	NBL/NT	EBL	EBT	EBR	WBL	WBT	WBR	SBL/ST				
Capacity (veh/h)	389	1023	-	-	1091	-	-	198				
HCM Lane V/C Ratio	0.103	0.01	-	-	0.048	-	-	0.18				
HCM Control Delay (s)	15.3	8.6	-	-	8.5	-	-	27.1				
HCM Lane LOS	C	A	-	-	A	-	-	D				
HCM 95th %ile Q(veh)	0.3	0	-	-	0.2	-	-	0.6				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Vol, veh/h	29	301	25	19	378	32	9	87	17	58	170	89
Future Vol, veh/h	29	301	25	19	378	32	9	87	17	58	170	89
Ideal Flow (veh/h)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	10	10	13	10	10	14	14	14	14	14	14
Grade (%)	0%	0%	0%	0%	0%	0%	-2%	0%	0%	0%	0%	0%
Storage Length (ft)	0	0	0	140	0	0	0	0	0	0	0	0
Storage Lanes	1	1	1	1	1	1	0	0	0	0	0	0
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25	25
Sat'd Flow (prot)	0.426	1750	0	1865	1749	0	0	1989	0	0	1891	0
RT Permitted	0.426	1750	0	1865	1749	0	0	1989	0	0	1891	0
Right Turn on Red	834	1750	0	1047	1749	0	0	1908	0	0	1743	0
Sat'd Flow (RTOR)	10	10	10	10	10	10	10	10	10	10	23	23
Link Speed (mph)	35	35	35	35	35	35	35	35	35	35	25	25
Link Distance (ft)	454	454	454	454	454	454	454	454	454	454	390	390
Travel Time (s)	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	10.6	10.6
Confl. Peds. (#/hr)	6	8	8	8	8	8	10	10	5	5	5	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)	32	354	0	21	446	0	0	123	0	0	345	0
Lane Group Flow (veh)	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases	2	2	2	2	2	2	2	2	2	2	2	2
Permitted Phases	2	2	2	2	2	2	2	2	2	2	2	2
Total Spill (s)	58.0	56.0	58.0	56.0	56.0	56.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	3.5	3.5	3.5	3.5	3.5	3.5
Act Effct Green (s)	16.6	16.6	16.6	16.6	16.6	16.6	13.6	13.6	13.6	13.6	13.6	13.6
Actuated G/C Ratio	0.40	0.40	0.40	0.40	0.40	0.40	0.33	0.33	0.33	0.33	0.33	0.33
V/C Ratio	0.10	0.50	0.05	0.54	0.50	0.05	0.20	0.59	0.05	0.20	0.59	0.05
Control Delay	9.1	12.3	8.5	14.9	11.5	11.5	11.5	11.5	11.5	11.5	16.6	16.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.1	12.3	8.5	14.9	11.5	11.5	11.5	11.5	11.5	11.5	16.6	16.6
LOS	A	B	A	B	A	B	B	B	B	B	B	B
Approach Delay		12.0			14.6			11.5			16.6	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)	4	55	3	3	75	5	5	18	5	5	58	5
Queue Length 95th (ft)	18	126	13	13	168	13	13	56	13	13	153	13
Internal Link Dist (ft)	374	374	374	374	374	374	374	374	374	374	374	374
Turn Bay Length (ft)	821	1724	140	140	1723	140	140	888	140	140	818	818
Base Capacity (veh)	0	0	0	0	0	0	0	0	0	0	0	0
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.21	0.02	0.26	0.26	0.04	0.14	0.26	0.04	0.14	0.26	0.04
Intersection Summary												
Area Type:	Other											
Cycle Length:	80											

Lanes, Volumes, Timings
6: Belle Ave & Franklin Blvd

One Lakewood Place
2023 No Build - PM Peak Hour

Actuated Cycle Length: 41.7	Intersection LOS: B
Control Type: Semi Act-Uncoord	ICU Level of Service B
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 14.1	
Intersection Capacity Utilization: 57.8%	
Analysis Period (min): 15	



HCM 2010 TWSC
7: Marloue Ave & Franklin Blvd

One Lakewood Place
2023 No Build - PM Peak Hour

Intersection	4.1																			
Int Delay, s/veh	EBL		EBT		EBR		WBL		WBT		WBR		NBL		NBR		SBL		SBR	
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Traffic Vol, veh/h	16	353	6	19	401	13	7	31	10	27	55	23								
Future Vol, veh/h	16	353	6	19	401	13	7	31	10	27	55	23								
Conflicting Peds #/hr	4	0	9	9	0	4	0	0	0	0	0	0								
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop								
RT Channelized	-	-	None	-	-	None	-	-	-	-	-	-								
Storage Length	140	-	-	0	-	-	-	-	-	-	-	-								
Veh in Median Storage, #	-	-	-	0	-	-	0	-	0	-	-	-								
Grade, %	-	-1	-	-	-	1	-	-	0	-	-	-								
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92								
Heavy Vehicles, %	0	0	0	0	0	1	0	4	0	1	1	0								
Mynt Flow	17	384	7	21	436	14	8	34	11	29	60	25								

Major/Minor	Major1				Major2				Minor1				Minor2			
	Conflicting Flow All	454	0	0	400	0	0	959	927	397	933	923	447			
Stage 1	-	-	-	-	-	-	-	431	431	-	489	489	-			
Stage 2	-	-	-	-	-	-	-	528	496	-	444	434	-			
Critical Heavy	4.1	-	-	4.1	-	-	7.1	6.54	6.2	6.91	6.31	6.1				
Critical Heavy Sig 1	-	-	-	-	-	-	6.1	5.54	-	5.91	5.31	-				
Critical Heavy Sig 2	-	-	-	-	-	-	6.1	5.54	-	5.91	5.31	-				
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4.036	3.3	3.509	4.009	3.3				
Plat Cap-1 Maneuver	1117	-	-	1170	-	-	239	286	657	261	285	623				
Stage 1	-	-	-	-	-	-	607	579	-	578	566	-				
Stage 2	-	-	-	-	-	-	538	542	-	610	597	-				
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-				
Mov Cap-1 Maneuver	1112	-	-	1159	-	-	184	254	651	224	272	620				
Mov Cap-2 Maneuver	-	-	-	-	-	-	184	254	-	224	272	-				
Stage 1	-	-	-	-	-	-	592	565	-	567	554	-				
Stage 2	-	-	-	-	-	-	452	530	-	555	583	-				

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.4	21.2	25
HCM LOS	C	C	D	D

HCM 2010 TWSC
8: Belle Ave & Northern Garage Entrance

One Lakewood Place
2023 No Build - PM Peak Hour

Intersection									
Int Delay, s/veh	1.3								
Movement	WBL	WBR	NBT	NBR	SBL	SBR			
Lane Configurations	W	T	T	T	T	T			
Traffic Vol, veh/h	15	15	68	6	6	143			
Future Vol, veh/h	15	15	68	6	6	143			
Conflicting Peds. #/hr	0	0	0	0	0	0			
Sign Control	Stop	Stop	Free	Free	Free	Free			
RT Channelized	-	None	-	None	-	None			
Storage Length	0	-	-	-	-	-			
Veh in Median Storage #	0	-	0	-	-	-			
Grade, %	0	-	1	-	-	-1			
Peak Hour Factor	92	92	92	92	92	92			
Heavy Vehicles, %	2	2	2	2	2	2			
Mvmt Flow	16	16	74	7	7	155			

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	247	78	0
Stage 1	78	-	-
Stage 2	169	-	-
Critical Heavy	6.42	6.22	-
Critical Heavy Sig 1	5.42	-	-
Critical Heavy Sig 2	5.42	-	-
Follow-up Heavy	3.518	3.318	-
Platoon blocked %	741	983	-
Stage 1	945	-	-
Stage 2	861	-	-
Platoon blocked, %	737	983	-
Mov Cap-1 Maneuver	737	-	-
Mov Cap-2 Maneuver	940	-	-
Stage 1	861	-	-
Stage 2	861	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	0.3
HCM LOS	A		

Minor Lane/Minor Mvmt	NBT	NBR/WBL1	SBL	SBR
Capacity (veh/h)	-	842	1517	-
HCM Lane W/C Ratio	-	0.039	0.004	-
HCM Control Delay (s)	-	9.4	7.4	0
HCM Lane LOS	-	A	A	A
HCM 95th %ile Q(veh)	-	0.1	0	-

HCM 2010 TWSC
9: Belle Ave & Southern Garage Entrance

One Lakewood Place
2023 No Build - PM Peak Hour

Intersection									
Int Delay, s/veh	1.3								
Movement	WBL	WBR	NBT	NBR	SBL	SBR			
Lane Configurations	W	T	T	T	T	T			
Traffic Vol, veh/h	15	15	59	6	6	152			
Future Vol, veh/h	15	15	59	6	6	152			
Conflicting Peds. #/hr	0	0	0	0	0	0			
Sign Control	Stop	Stop	Free	Free	Free	Free			
RT Channelized	-	None	-	None	-	None			
Storage Length	0	-	0	-	-	-			
Veh in Median Storage #	0	-	0	-	-	-			
Grade, %	0	-	-2	-	-	-1			
Peak Hour Factor	92	92	92	92	92	92			
Heavy Vehicles, %	2	2	2	2	2	2			
Mvmt Flow	16	16	64	7	7	165			

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	247	68	0
Stage 1	68	-	-
Stage 2	179	-	-
Critical Heavy	6.42	6.22	-
Critical Heavy Sig 1	5.42	-	-
Critical Heavy Sig 2	5.42	-	-
Follow-up Heavy	3.518	3.318	-
Platoon blocked %	741	995	-
Stage 1	965	-	-
Stage 2	862	-	-
Platoon blocked, %	737	995	-
Mov Cap-1 Maneuver	737	-	-
Mov Cap-2 Maneuver	990	-	-
Stage 1	862	-	-
Stage 2	862	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	0.3
HCM LOS	A		

Minor Lane/Minor Mvmt	NBT	NBR/WBL1	SBL	SBR
Capacity (veh/h)	-	847	1529	-
HCM Lane W/C Ratio	-	0.038	0.004	-
HCM Control Delay (s)	-	9.4	7.4	0
HCM Lane LOS	-	A	A	A
HCM 95th %ile Q(veh)	-	0.1	0	-

HCM 2010 TWSC
10: Marlowe Ave & Northern Garage Entrance

One Lakewood Place
2023 No Build - PM Peak Hour

Intersection									
Int Delay, s/veh	0								
Movement									
	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations	W	0	0	0	4	4	6	6	0
Traffic Vol, veh/h	0	0	0	0	15	6	0	0	0
Future Vol, veh/h	0	0	0	0	15	6	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None	-	-	-
Storage Length	0	-	-	-	-	-	-	-	-
Van in Median Storage, #	0	-	-	0	0	0	-	-	-
Grade, %	0	-	-	1	-1	-	-	-	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	16	7	0			

Major/Minor									
Conflicting Flow All	Minor2	Major1	Major2						
Stage 1	23	7	7	0	-	0	-	0	-
Stage 2	18	-	-	-	-	-	-	-	-
Critical Hwy	6.42	6.22	4.12	-	-	-	-	-	-
Critical Hwy Sig 1	5.42	-	-	-	-	-	-	-	-
Critical Hwy Sig 2	5.42	-	-	-	-	-	-	-	-
Follow-up Hwy	3.518	3.318	2.218	-	-	-	-	-	-
Platoon blocked %	993	1075	1614	-	-	-	-	-	-
Mov Cap-1 Maneuver	993	-	-	-	-	-	-	-	-
Mov Cap-2 Maneuver	1016	-	-	-	-	-	-	-	-
Stage 1	1007	-	-	-	-	-	-	-	-
Stage 2	1007	-	-	-	-	-	-	-	-

Approach									
	EB	EBR	NB	NBT	SB	SBR			
HCM Control Delay, s	0	0	0	0	0	0			
HCM LOS	A								

Minor Lane/Minor Mvmt									
Capacity (veh/h)	NBL	NBT	EBL	EBT	SBT	SBR			
HCM Lane V/C Ratio	1614	-	-	-	-	-			
HCM Control Delay (s)	0	-	0	-	-	-			
HCM Lane LOS	A	-	A	-	-	-			
HCM 95th %ile Q(veh)	0	-	-	-	-	-			

HCM 2010 TWSC
11: Marlowe Ave & Southern Garage Entrance

One Lakewood Place
2023 No Build - PM Peak Hour

Intersection									
Int Delay, s/veh	7.5								
Movement									
	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations	W	0	0	0	4	4	6	6	0
Traffic Vol, veh/h	15	30	12	0	0	0	6	6	0
Future Vol, veh/h	15	30	12	0	0	0	6	6	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None	-	-	-
Storage Length	0	-	-	-	-	-	-	-	-
Van in Median Storage, #	0	-	-	0	0	0	-	-	-
Grade, %	0	-	-	1	-1	-	-	-	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	33	13	0	0	0	7		

Major/Minor									
Conflicting Flow All	Minor2	Major1	Major2						
Stage 1	30	4	7	0	-	0	-	0	-
Stage 2	28	-	-	-	-	-	-	-	-
Critical Hwy	6.42	6.22	4.12	-	-	-	-	-	-
Critical Hwy Sig 1	5.42	-	-	-	-	-	-	-	-
Critical Hwy Sig 2	5.42	-	-	-	-	-	-	-	-
Follow-up Hwy	3.518	3.318	2.218	-	-	-	-	-	-
Platoon blocked %	984	1080	1614	-	-	-	-	-	-
Mov Cap-1 Maneuver	997	-	-	-	-	-	-	-	-
Mov Cap-2 Maneuver	976	-	-	-	-	-	-	-	-
Stage 1	1011	-	-	-	-	-	-	-	-
Stage 2	997	-	-	-	-	-	-	-	-

Approach									
	EB	EBR	NB	NBT	SB	SBR			
HCM Control Delay, s	8.6	7.2	7.2	0	0	0			
HCM LOS	A								

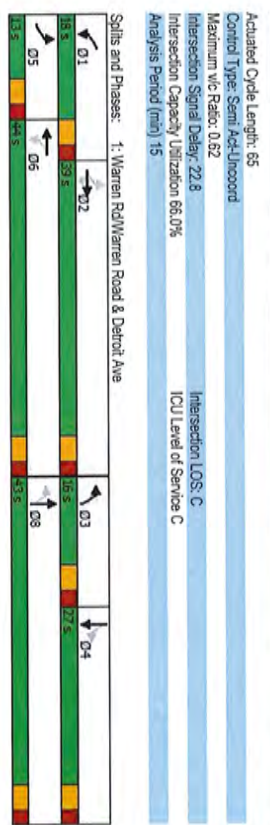
Minor Lane/Minor Mvmt									
Capacity (veh/h)	NBL	NBT	EBL	EBT	SBT	SBR			
HCM Lane V/C Ratio	1614	-	1043	-	-	-			
HCM Control Delay (s)	0.008	-	0.047	-	-	-			
HCM Lane LOS	7.2	-	8.6	-	-	-			
HCM 95th %ile Q(veh)	0	-	0.1	-	-	-			

Lanes, Volumes, Timings
 1: Warren Rd/Warren Road & Detroit Ave
 One Lakewood Place
 2023 No Build - SAT Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	27	328	156	109	321	26	156	138	164	2	121	11
Future Volume (vph)	27	328	156	109	321	26	156	138	164	2	121	11
Ideal Flow (veh/pl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	9	11	12	10	12	12	10	11	11	16	16	16
Grade (%)	1%	1%	1%	1%	1%	-3%	0%	0%	0%	0%	4%	0%
Storage Length (ft)	60	60	60	80	80	0	160	0	0	0	0	0
Taper Length (ft)	25	25	25	25	25	0	25	0	0	0	0	0
Sat'd Flow (prot)	1616	1792	1591	1643	1844	0	1693	1650	0	0	2021	0
Flt Permitted	0.514	0.514	0.344	0.344	0.344	0.388	0.388	0.388	0	0	0.991	0
Sat'd Flow (perm)	853	1792	1476	584	1844	0	648	1650	0	0	2004	0
Right Turn on Red	No	No	No	No	No	No	No	No	No	No	No	No
Sat'd Flow (RTOR)	25	25	25	25	25	25	25	25	25	25	25	25
Link Speed (mph)	351	351	351	351	351	351	351	351	351	351	351	351
Link Distance (ft)	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
Travel Time (s)	36	36	36	36	36	36	36	36	36	36	36	36
Cont. Peds. (ft/h)	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Peak Hour Factor	0%	2%	1%	2%	1%	0%	1%	1%	1%	0%	3%	1%
Heavy Vehicles (%)	0%	2%	1%	2%	1%	0%	1%	1%	1%	0%	3%	1%
Shared Lane Traffic (%)	28	342	163	114	381	0	163	315	0	0	139	0
Lane Group Flow (veh)	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	NA	Perm	NA	NA	4
Turn Type	5	2	2	6	8	3	8	8	4	4	4	4
Prohibited Phases	2	2	2	6	8	3	8	8	4	4	4	4
Permitted Phases	13.0	39.0	38.0	18.0	44.0	16.0	43.0	27.0	27.0	27.0	27.0	27.0
Total Spill (s)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Total Lost Time (s)	24.7	20.0	20.0	29.5	26.2	23.3	23.3	23.3	23.3	23.3	23.3	23.3
Act Effct Green (s)	0.38	0.31	0.31	0.45	0.40	0.36	0.36	0.36	0.36	0.36	0.36	0.36
Activated g/C Ratio	0.07	0.62	0.56	0.28	0.49	0.39	0.53	0.44	0.44	0.44	0.44	0.44
v/c Ratio	10.7	27.3	23.2	12.2	19.2	20.5	22.6	38.4	38.4	38.4	38.4	38.4
Control Delay	0.0	0.0	0.0	0.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	10.7	27.3	23.2	12.4	19.6	20.5	22.6	38.4	38.4	38.4	38.4	38.4
Total Delay	B	C	C	B	B	C	C	C	C	C	C	C
LOS	B	C	C	B	B	C	C	C	C	C	C	C
Approach Delay	25.2	25.2	25.2	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9
Approach LOS	C	C	C	B	B	C	C	C	C	C	C	C
Queue Length 50th (ft)	6	126	56	25	92	46	99	54	54	54	54	54
Queue Length 95th (ft)	20	239	118	58	233	114	223	126	126	126	126	126
Internal Link Dist (ft)	271	271	271	172	172	172	172	172	172	172	172	172
Turn Bay Length (ft)	60	60	60	80	80	160	160	1027	1027	1027	1027	1027
Base Capacity (veh)	443	1036	853	517	1168	435	1027	770	770	770	770	770
Starvation Cap Reductn	0	0	0	0	88	416	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.33	0.19	0.27	0.48	0.37	0.31	0.18	0.18	0.18	0.18	0.18

Intersection Summary
 Area Type: Other
 Cycle Length: 100

Lanes, Volumes, Timings
 1: Warren Rd/Warren Road & Detroit Ave
 One Lakewood Place
 2023 No Build - SAT Peak Hour



Lanes, Volumes, Timings
2- St Charles Ave & Detroit Ave

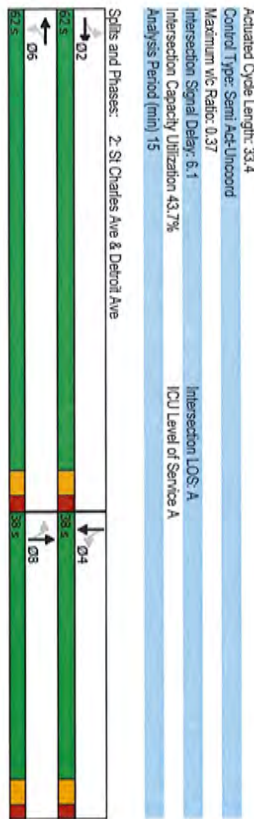
One Lakewood Place
2023 No Build - SMT Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NSR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Traffic Volume (vph)	28	436	28	35	408	37	14	16	26	15	22	37
Future Volume (vph)	28	436	28	35	408	37	14	16	26	15	22	37
Ideal Flow (veh/s)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	15	15	10	12	12	10	10	10	13	13	13
Grate (%)	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%
Storage Length (ft)	80	0	0	70	0	0	0	0	0	0	0	0
Taper Length (ft)	25	0	0	25	0	0	0	0	0	0	0	0
Satd. Flow (prot)	1935	2018	0	1678	1840	0	0	1634	0	0	1754	0
Fit Permitted	0.488	0	0	0.472	0	0	0	0.889	0	0	0.915	0
Satd. Flow (perm)	976	2018	0	822	1840	0	0	1453	0	0	1619	0
Right Turn on Red			Yes			Yes		Yes		Yes		Yes
Satd. Flow (RTOR)		5			8			28		25		40
Link Speed (mph)		25			25			25		25		25
Link Distance (ft)		252			272			401		313		313
Travel Time (s)		6.9			7.4			10.9		8.5		8.5
Cont. Peds. (ft/hr)	43	34	34	34	43	43	16	9	9	9	16	16
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	3%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (veh)	30	499	0	38	479	0	0	60	0	0	80	0
Turn Type	Perm	NA	Perm	NA	NA	Perm	NA	NA	Perm	NA	NA	Perm
Protected Phases	2			6			8			4		
Permitted Phases	62.0	62.0	62.0	62.0	62.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0
Total Split (s)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Act Effct Green (s)	23.6	23.6	23.6	23.6	23.6	6.7	6.7	6.7	6.7	6.7	6.7	6.7
Actuated g/C Ratio	0.71	0.71	0.71	0.71	0.71	0.20	0.20	0.20	0.20	0.20	0.20	0.20
v/c Ratio	0.04	0.35	0.07	0.37	0.37	0.19	0.19	0.19	0.19	0.19	0.23	0.23
Control Delay	4.8	5.5	5.0	5.0	5.7	9.8	9.8	9.8	9.8	9.4	9.4	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.8	5.5	5.0	5.0	5.8	9.8	9.8	9.8	9.8	9.4	9.4	9.4
LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Delay		5.5			5.7			9.8		9.4		9.4
Approach LOS		A			A			A		A		A
Queue Length 50th (ft)	2	48	3	47	5	6	5	6	6	6	6	6
Queue Length 95th (ft)	10	109	13	109	26	30	26	30	30	30	30	30
Internal Link Dist (ft)		172			192			321		233		233
Turn Bay Length (ft)	80		70									
Turn Bay Length (ft)	976	2018	822	1840	1391	1540	1540	1540	1540	1540	1540	1540
Base Capacity (vph)	0	324	0	182	0	0	0	0	0	0	0	0
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillover Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.29	0.05	0.29	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.05

Area Type: Other
Cycle Length: 100
Langan 04/16/2019 Synchro 10 Report Page 3

Lanes, Volumes, Timings
2- St Charles Ave & Detroit Ave

One Lakewood Place
2023 No Build - SMT Peak Hour



Langan 04/16/2019 Synchro 10 Report Page 4

Lanes, Volumes, Timings
3- Belle Ave & Detroit Ave

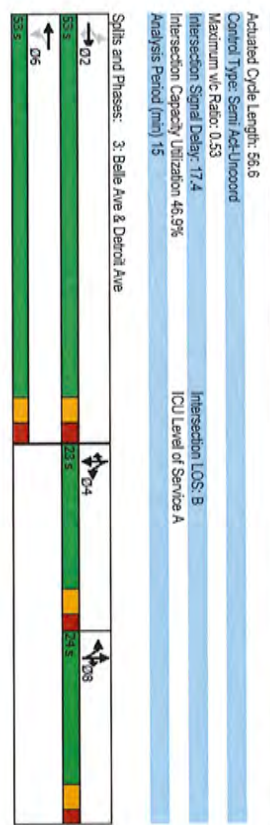
One Lakewood Place
2023 No Build - SAT Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	31	426	33	27	415	22	26	75	30	17	79	45
Traffic Volume (vph)	31	426	33	27	415	22	26	75	30	17	79	45
Future Volume (vph)	1900	1500	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (veh/pl)	10	10	12	10	10	10	10	10	10	11	11	11
Lane Width (ft)	100	0%	100	100	0	100	0	100	0	90	0	0
Storage Length (ft)	1	1	0	1	1	0	0	0	1	0	0	1
Taper Length (ft)	25	1588	1739	1615	1702	1751	0	1742	1415	0	1750	1479
Satd. Flow (prot)	0.390	643	1739	1527	707	1751	0	0.987	1415	0	1741	1479
Flt. Permitted	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (perm)	79	79	79	79	79	79	79	79	79	79	79	79
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)	25	272	272	278	278	25	254	254	254	25	306	25
Link Speed (mph)	7.4	7.4	7.4	7.6	7.6	7.4	7.6	7.6	7.6	7.4	8.3	7.4
Travel Time (s)	31	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Contl. Peds. (ft/h)	8%	2%	0%	0%	1%	5%	0%	0%	6%	0%	3%	4%
Peak Hour Factor	34	468	36	30	480	0	0	111	33	0	106	49
Heavy Vehicles (%)	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Shared Lane Traffic (%)	2	2	6	6	6	8	8	8	8	4	4	4
Lane Group Flow (veh)	53.0	53.0	53.0	53.0	53.0	24.0	24.0	24.0	23.0	23.0	23.0	23.0
Protected Phases	5.8	5.8	5.8	5.8	5.8	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Permitted Phases	29.5	29.5	29.5	29.5	29.5	10.0	10.0	10.0	9.8	9.8	9.8	9.8
Total Split (s)	0.52	0.52	0.52	0.52	0.52	0.18	0.18	0.17	0.17	0.17	0.17	0.17
Act Effct Green (s)	0.10	0.52	0.04	0.08	0.53	0.36	0.10	0.35	0.15	0.15	0.15	0.15
Actuated v/c Ratio	13.4	16.9	0.5	13.0	16.9	28.9	0.8	29.0	3.5	3.5	3.5	3.5
v/c Ratio	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	13.4	17.0	0.6	13.0	17.0	28.9	0.6	29.0	3.5	3.5	3.5	3.5
Queue Length	B	B	A	B	B	C	A	C	A	C	A	A
LOS	15.7	15.7	16.8	16.8	16.8	22.4	22.4	20.9	20.9	20.9	20.9	20.9
Approach Delay	B	B	C	C	C	C	C	C	C	C	C	C
Approach LOS	7	126	0	6	129	34	0	32	0	32	0	0
Queue Length 50th (ft)	27	270	3	24	275	99	0	96	12	12	12	12
Queue Length 95th (ft)	192	192	198	198	198	174	174	226	226	226	226	226
Internal Link Dist (ft)	100	100	100	100	100	649	581	617	577	577	577	577
Turn Bay Length (ft)	528	1430	1270	581	1441	0	0	0	0	0	0	0
Base Capacity (vph)	0	208	0	0	210	0	0	0	0	0	0	0
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.38	0.03	0.05	0.39	0.17	0.06	0.17	0.06	0.17	0.06	0.08

Area Type: Other
Cycle Length: 100

Lanes, Volumes, Timings
3- Belle Ave & Detroit Ave

One Lakewood Place
2023 No Build - SAT Peak Hour



Lanes, Volumes, Timings
 4: Marlowe Ave & Detroit Ave

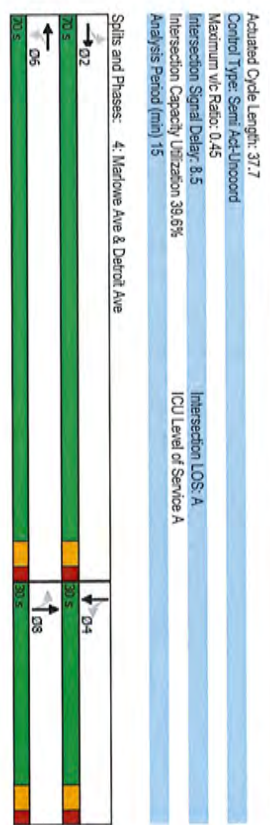
One Lakewood Place
 2023 No Build - SAT Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	2	3	1	2	3	1	2	3	1	2	3
Traffic Volume (vph)	18	441	13	9	417	20	11	35	12	16	44	33
Future Volume (vph)	18	441	13	9	417	20	11	35	12	16	44	33
Ideal Flow (veh/pl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	11	10	12	12	11	11	11	11	11	11
Grade (%)	2%			0%			-3%				6%	
Storage Length (ft)	100	0	0	60	0	0	0	0	0	0	0	0
Taper Length (ft)	25			25			25			25		
Sat'd Flow (prot)	1688	1774	0	1688	1884	0	1771	0	0	1646	0	0
Flt Permitted	0.471			0.458			0.910			0.927		
Sat'd Flow (perm)	820	1774	0	797	1884	0	1623	0	0	1527	0	0
Right Turn on Red			No			No		No			No	
Sat'd Flow (RTOR)												
Link Speed (mph)	25			25			25			25		
Link Distance (ft)	278			272			274			327		
Travel Time (s)	7.6			5.8			7.5			8.9		
Cont' Peds. (fltn)	22		40	40		22	6	24		24		6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	20	493	0	10	475	0	63	0	0	101	0	0
Turn Type	Perm	NA	Perm	NA	NA	Perm	NA	NA	NA	Perm	NA	NA
Protected Phases	2			6			8			4		
Permitted Phases	7.0.0	7.0.0		7.0.0	7.0.0		3.0.0			3.0.0		
Total Lost Time (s)	5.1	5.1		5.1	5.1		5.1			5.1		
Act Effct Green (s)	23.4	23.4		23.4	23.4		0.21			0.22		
Actuated g/C Ratio	0.62	0.62		0.62	0.62		0.22			0.31		
Wt Ratio	0.04	0.45		0.02	0.41		0.18			0.31		
Control Delay	5.2	7.6		5.1	7.1		14.4			16.2		
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0		
Total Delay	5.2	7.7		5.1	7.1		14.4			16.2		
LOS	A	A		A	A		B			B		
Approach Delay		7.6			7.1		14.4			16.2		
Approach LOS		A			A		B			B		
Queue Length 50th (ft)	2	57		1	54		10			17		
Queue Length 95th (ft)	9	132		6	121		36			53		
Internal Link Delat (ft)		198			132		194			247		
Turn Bay Length (ft)	100			60								
Base Capacity (vph)	820	1774		797	1884		1105			1040		
Starvation Cap Reductn	0	167		0	0		0			0		
Spillback Cap Reductn	0	0		0	0		0			0		
Storage Cap Reductn	0	0		0	0		0			0		
Reduced v/c Ratio	0.02	0.31		0.01	0.25		0.06			0.10		

Area Type: Other
 Cycle Length: 100

Lanes, Volumes, Timings
 4: Marlowe Ave & Detroit Ave

One Lakewood Place
 2023 No Build - SAT Peak Hour



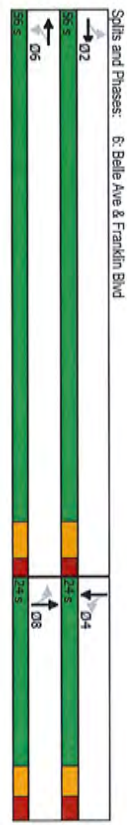
Intersection	EBL		EBR		WBL		WBR		NBL	NBT	NBR	SBL	SBT	SBR
Int Delay, s/veh	12													
Major/Minor	Major/1		Major/2		Minor/1		Minor/2							
Conflicting Flow All	496	0	544	0	1090	1106	537	1094	1114	502				
Stage 1	-	-	-	-	540	540	-	564	564	-				
Stage 2	-	-	-	-	550	566	-	520	550	-				
Critical Hwy	4.1	-	4.1	-	6.7	6.1	6	8.3	7.7	6.8				
Critical Hwy Sig 1	-	-	-	-	5.7	5.1	-	7.3	6.7	-				
Critical Hwy Sig 2	-	-	-	-	5.7	5.1	-	7.3	6.7	-				
Follow-up Hwy	2.2	-	2.2	-	3.5	4	3.3	3.5	4	3.3				
Pd Cap-1 Maneuver	1078	-	1035	-	219	240	564	137	145	527				
Stage 1	-	-	-	-	562	567	-	428	424	-				
Stage 2	-	-	-	-	556	544	-	457	432	-				
Platoon blocked %	-	-	-	-	-	-	-	-	-	-				
Mov Cap-1 Maneuver	1055	-	1013	-	200	221	551	125	134	511				
Mov Cap-2 Maneuver	-	-	-	-	200	221	-	125	134	-				
Stage 1	-	-	-	-	549	544	-	416	401	-				
Stage 2	-	-	-	-	521	514	-	438	422	-				
Approach	EB	WB	NB	SB										
HCM Control Delay, s	0.1	0.6	18.3	22.4										
HCM LOS	C	C	C	C										
Minor Lane/Minor Mvmt	NBL/1	EBL	EBT	EBR	WBL	WBT	WBR/SBL/1							
Capacity (veh/h)	306	1055	-	1013	-	-	219							
HCM Lane V/C Ratio	0.119	0.003	-	0.035	-	-	0.065							
HCM Control Delay (s)	18.3	8.4	-	8.7	-	-	22.4							
HCM Lane LOS	C	A	-	A	-	-	C							
HCM 95th %ile Q(veh)	0.4	0	-	0.1	-	-	0.2							

Line Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	45	270	12	11	325	30	7	101	12	47	113	57
Future Volume (vph)	45	270	12	11	325	30	7	101	12	47	113	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	10	10	10	10	14	14	14	14	14	14	14
Grade (%)	0%	0%	0%	0%	0%	-2%	0%	0%	0%	0%	0%	0%
Storage Length (ft)	0	0	0	140	0	0	0	0	0	0	0	0
Storage Lanes	1	1	0	1	0	0	0	0	0	0	0	0
Taper Length (ft)	25	1744	0	1865	1747	0	0	1956	0	0	1870	0
Satd Flow (prot)	0.541	0.580	0	0.580	0.580	0	0	0.971	0	0	0.881	0
Right Turn on Red	1060	1744	0	1139	1747	0	0	1904	0	0	1681	0
Satd Flow (RTOR)	6	6	Yes	11	11	Yes	7	7	Yes	21	21	Yes
Link Speed (mph)	35	454	35	35	285	35	25	25	35	25	25	35
Link Distance (mph)	454	818	454	454	285	454	285	390	454	285	390	454
Travel Time (s)	5	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Confl. Peds. (#/hr)	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Peak Hour Factor	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)	47	294	0	11	370	0	0	125	0	0	226	0
Lane Group Flow (vph)	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases	2	6	6	6	8	8	4	24.0	24.0	24.0	24.0	4
Total Split (s)	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Act Effct Green (s)	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6
Act Effct Green (%)	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41
Actuated v/c Ratio	0.11	0.41	0.02	0.51	0.24	0.08	0.00	0.24	0.08	0.00	0.24	0.08
v/c Ratio	7.6	9.6	0.0	0.0	0.0	0.0	0.0	11.3	0.0	0.0	14.0	0.0
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.3	0.0	0.0	14.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.3	0.0	0.0	14.0	0.0
Total Delay	7.6	9.6	0.0	0.0	0.0	0.0	0.0	11.3	0.0	0.0	14.0	0.0
LOS	A	A	A	A	B	B	B	B	B	B	B	B
Approach Delay	9.3	10.7	10.7	10.7	11.3	11.3	14.0	14.0	14.0	14.0	14.0	14.0
Approach LOS	A	B	B	B	B	B	B	B	B	B	B	B
Queue Length 50th (ft)	5	34	1	45	16	16	29	29	29	29	29	29
Queue Length 95th (ft)	20	87	7	112	87	87	87	87	87	87	87	87
Internal Link Dist (ft)	374	374	205	205	310	310	310	310	310	310	310	310
Turn Bay Length (ft)	140	140	140	140	140	140	140	140	140	140	140	140
Base Capacity (vph)	1060	1744	1139	1747	1019	1019	907	907	907	907	907	907
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.17	0.01	0.21	0.12	0.12	0.25	0.25	0.25	0.25	0.25	0.25
Intersection Summary												
Area Type:	Other											
Cycle Length:	80											

Lanes, Volumes, Timings
6: Belle Ave & Franklin Blvd

One Lakewood Place
2023 No Build - SAT Peak Hour

Actuated Cycle Length: 35.4	Intersection LOS: B
Control Type: Semi Act-Uncoord	ICU Level of Service B
Maximum v/c Ratio: 0.51	
Intersection Signal Delay: 11.0	
Intersection Capacity Utilization 55.7%	
Analysis Period (min) 15	



HCM 2010 TWSC
7: Marloue Ave & Franklin Blvd

One Lakewood Place
2023 No Build - SAT Peak Hour

Intersection	2.9															
Infl Delay, s/veh	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations	14	310	9	12	336	19	11	28	8	21	35	22				
Tramc Vol, veh/h	14	310	9	12	336	19	11	28	8	21	35	22				
Future Vol, veh/h	3	0	1	1	0	3	0	0	1	1	0	0				
Conflicting Peds. #/hr	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop				
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop				
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None				
Storage Length	140	-	None	0	-	0	-	-	0	-	-	-				
Veh in Median Storage, #	-	-	0	-	0	-	-	0	-	-	-	-				
Grade, %	-	-	-	1	-	-	-	0	-	-	-	-				
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94				
Heavy Vehicles, %	0	1	0	0	0	0	0	0	0	0	0	0				
Mvmt Flow	15	330	10	13	357	20	12	30	9	22	37	23				

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	380	0	341	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.1	-	4.1	-
Critical Hdwy Sg 1	-	-	7.1	6.5
Critical Hdwy Sg 2	-	-	6.1	5.5
Follow-up Hdwy	2.2	-	2.2	-
Pt Cap-1 Maneuver	1190	-	1229	-
Stage 1	-	-	311	333
Stage 2	-	-	613	601
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1186	-	1228	-
Mov Cap-2 Maneuver	-	-	270	324
Stage 1	-	-	648	617
Stage 2	-	-	550	593
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.3	17.4	17.2
HCM LOS	C	C	C	C
Minor Lane/Major Mvmt	NBLN1	EBL	EBT	EBR
Capacity (veh/h)	339	1186	-	1228
HCM Lane V/C Ratio	0.147	0.013	-	0.01
HCM Control Delay (s)	17.4	8.1	-	17.2
HCM Lane LOS	C	A	-	A
HCM 95th %ile Q(veh)	0.5	0	-	0

HCM 2010 TWSC
8: Belle Ave & Northern Garage Entrance

One Lakewood Place
2023 No Build - SAT Peak Hour

Intersection		1.1							
Int Delay, s/veh		1.1							
Movement	WBL	WBR	NBT	NBR	SBL	SBT			
Lane Configurations	W	F	F						
Traffic Vol, veh/h	13	13	119	12	12	128			
Future Vol, veh/h	13	13	119	12	12	128			
Conflicting Peds, #/hr	0	0	0	0	0	0			
Sign Control	Stop	Stop	Free	Free	Free	Free			
RT Channelized	-	None	-	None	-	None			
Storage Length	0	-	-	-	-	-			
Vel in Median Storage, #	0	-	1	-	-	-			
Grade, %	0	-	1	-	-	-1			
Peak Hour Factor	92	92	92	92	92	92			
Heavy Vehicles, %	2	2	2	2	2	2			
Mvmt Flow	14	14	129	13	13	139			

Major/Minor	Minor1	Major1	Major2	Minor2
Conflicting Flow All	301	136	0	142
Stage 1	136	-	-	-
Stage 2	163	-	-	-
Critical Heavy	6.42	6.22	-	4.12
Critical Heavy Sig 1	5.42	-	-	-
Critical Heavy Sig 2	5.42	-	-	-
Follow-up Heavy	3.518	3.318	-	2.218
Pot Cap-1 Maneuver	891	913	-	1441
Stage 1	890	-	-	-
Stage 2	864	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	684	913	-	1441
Mov Cap-2 Maneuver	884	-	-	-
Stage 1	881	-	-	-
Stage 2	864	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	0.6
HCM LOS	A		

Minor Lane/Minor Mvmt	NBT	NBR/BL/RT	SBL	SBT
Capacity (veh/h)	-	782	1441	-
HCM Lane V/C Ratio	-	0.036	0.009	-
HCM Control Delay (s)	-	9.8	7.5	0
HCM Lane LOS	-	A	A	A
HCM 95th Pctle Q(veh)	-	0.1	0	-

HCM 2010 TWSC
9: Belle Ave & Southern Garage Entrance

One Lakewood Place
2023 No Build - SAT Peak Hour

Intersection		1.1							
Int Delay, s/veh		1.1							
Movement	WBL	WBR	NBT	NBR	SBL	SBT			
Lane Configurations	W	F	F						
Traffic Vol, veh/h	13	13	118	12	12	129			
Future Vol, veh/h	13	13	118	12	12	129			
Conflicting Peds, #/hr	0	0	0	0	0	0			
Sign Control	Stop	Stop	Free	Free	Free	Free			
RT Channelized	-	None	-	None	-	None			
Storage Length	0	-	-	-	-	-			
Vel in Median Storage, #	0	-	0	-	-	0			
Grade, %	0	-	-2	-	-	1			
Peak Hour Factor	92	92	92	92	92	92			
Heavy Vehicles, %	2	2	2	2	2	2			
Mvmt Flow	14	14	128	13	13	140			

Major/Minor	Minor1	Major1	Major2	Minor2
Conflicting Flow All	301	135	0	141
Stage 1	135	-	-	-
Stage 2	166	-	-	-
Critical Heavy	6.42	6.22	-	4.12
Critical Heavy Sig 1	5.42	-	-	-
Critical Heavy Sig 2	5.42	-	-	-
Follow-up Heavy	3.518	3.318	-	2.218
Pot Cap-1 Maneuver	891	914	-	1442
Stage 1	891	-	-	-
Stage 2	863	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	684	914	-	1442
Mov Cap-2 Maneuver	884	-	-	-
Stage 1	882	-	-	-
Stage 2	863	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	0.6
HCM LOS	A		

Minor Lane/Minor Mvmt	NBT	NBR/BL/RT	SBL	SBT
Capacity (veh/h)	-	782	1442	-
HCM Lane V/C Ratio	-	0.036	0.009	-
HCM Control Delay (s)	-	9.8	7.5	0
HCM Lane LOS	-	A	A	A
HCM 95th Pctle Q(veh)	-	0.1	0	-

HCM 2010 TWSC
10: Marlowe Ave & Northern Garage Entrance

One Lakewood Place
2023 No Build - SAT Peak Hour

Intersection									
Int Delay, s/veh	0								
Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations	Y			4	1				
Traffic Vol, veh/h	0	0	0	13	12	0			
Future Vol, veh/h	0	0	0	13	12	0			
Conflicting Peds #/hr	0	0	0	0	0	0			
Sign Control	Stop	Stop	Free	Free	Free	Free			
RT Channelized	-	None	-	None	-	None			
Storage Length	0	-	-	-	-	-			
Vol in Median Storage, #	0	-	-	0	0	-			
Grade, %	0	-	-	1	-1	-			
Peak Hour Factor	92	92	92	92	92	92			
Heavy Vehicles, %	2	2	2	2	2	2			
Mvmt Flow	0	0	0	14	13	0			

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	27	13	13	0	-	0
Stage 1	14	-	-	-	-	-
Stage 2	14	-	-	-	-	-
Critical Hwy	6.42	6.22	4.12	-	-	-
Critical Hwy Sig 1	5.42	-	-	-	-	-
Critical Hwy Sig 2	5.42	-	-	-	-	-
Follow-up Hwy	3.518	3.318	2.218	-	-	-
Pd Cap-1 Maneuver	988	1067	1606	-	-	-
Stage 1	1010	-	-	-	-	-
Stage 2	1009	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	988	1067	1606	-	-	-
Mov Cap-2 Maneuver	988	-	-	-	-	-
Stage 1	1010	-	-	-	-	-
Stage 2	1009	-	-	-	-	-

Approach	EB	NB	SB			
HCM Control Delay, s	0	0	0			
HCM LOS	A					

Minor Lane/Minor Mvmt	NBL	NBT	EBL	SBT	SBR
Capacity (veh/h)	1806	-	-	-	-
HCM Lane W/C Ratio	0.016	-	0.041	-	-
HCM Control Delay (s)	7.3	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %ile Q(veh)	0	-	-	-	-

HCM 2010 TWSC
11: Marlowe Ave & Southern Garage Entrance

One Lakewood Place
2023 No Build - SAT Peak Hour

Intersection									
Int Delay, s/veh	6.9								
Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations	Y			4	1				
Traffic Vol, veh/h	13	26	24	0	0	12			
Future Vol, veh/h	13	26	24	0	0	12			
Conflicting Peds #/hr	0	0	0	0	0	0			
Sign Control	Stop	Stop	Free	Free	Free	Free			
RT Channelized	-	None	-	None	-	None			
Storage Length	0	-	-	-	-	-			
Vol in Median Storage, #	0	-	-	0	0	-			
Grade, %	0	-	-	1	-1	-			
Peak Hour Factor	92	92	92	92	92	92			
Heavy Vehicles, %	2	2	2	2	2	2			
Mvmt Flow	14	28	26	0	0	13			

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	59	7	13	0	-	0
Stage 1	7	-	-	-	-	-
Stage 2	52	-	-	-	-	-
Critical Hwy	6.42	6.22	4.12	-	-	-
Critical Hwy Sig 1	5.42	-	-	-	-	-
Critical Hwy Sig 2	5.42	-	-	-	-	-
Follow-up Hwy	3.518	3.318	2.218	-	-	-
Pd Cap-1 Maneuver	948	1075	1606	-	-	-
Stage 1	1018	-	-	-	-	-
Stage 2	970	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	933	1075	1606	-	-	-
Mov Cap-2 Maneuver	933	-	-	-	-	-
Stage 1	1000	-	-	-	-	-
Stage 2	970	-	-	-	-	-

Approach	EB	NB	SB			
HCM Control Delay, s	8.7	7.3	0			
HCM LOS	A					

Minor Lane/Minor Mvmt	NBL	NBT	EBL	SBT	SBR
Capacity (veh/h)	1806	-	1023	-	-
HCM Lane W/C Ratio	0.016	-	0.041	-	-
HCM Control Delay (s)	7.3	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %ile Q(veh)	0.1	-	0.1	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Traffic Volume (vph)	234	115	182	10	78	111	135	0	160	0	160	0
Future Volume (vph)	6	234	98	115	162	10	78	111	135	0	160	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	9	11	12	10	12	12	10	11	11	16	16	16
Grade (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Storage Length (ft)	60	60	80	80	80	80	80	80	80	80	80	80
Storage Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25	25
Satd. Flow (prot)	1616	1774	1575	1643	1770	0	1613	1639	0	0	2057	0
RTI Permitted	0.632			0.482			0.327					
Satd. Flow (perm)	1063	1774	1494	823	1770	0	351	1639	0	0	2057	0
Right Turn on Red	No	No	No	No	No	No	No	No	No	No	No	No
Satd. Flow (RTOR)												
Link Speed (mph)	25	25	25	25	25	25	25	25	25	25	25	25
Link Distance (ft)	351	351	351	252	252	252	341	341	341	341	341	341
Travel Time (s)	9.6	9.6	9.6	6.9	6.9	6.9	9.3	9.3	9.3	9.3	9.3	9.3
Cont. Pecks (#/hr)	13	22	22	22	22	13	9	9	10	10	10	9
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	3%	2%	2%	2%	0%	6%	6%	3%	3%	0%	0%
Shared Lane Traffic (%)	7	272	114	134	200	0	91	286	0	0	183	0
Lane Group Flow (vph)	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	pm+pt	NA	NA	NA	NA
Turn Type	pm+pt	5	2	1	6	3	8	4				
Prohibited Phases	2	2	2	6	8	8	8	4				
Total Spht (s)	13.0	39.0	39.0	18.0	44.0	16.0	43.0	27.0				
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1				
Act Effct Green (s)	53.2	47.4	47.4	61.8	59.5	28.0	28.0	15.7				
Actuated v/c Ratio	0.53	0.47	0.47	0.62	0.60	0.28	0.28	0.16				
v/c Ratio	0.01	0.32	0.16	0.23	0.19	0.36	0.52	0.60				
Control Delay	10.8	20.5	19.2	10.8	12.7	28.8	36.3	47.1				
Queue Delay	0.0	0.0	0.0	1.0	1.2	0.0	0.0	0.0				
Total Delay	10.8	20.5	19.2	11.8	13.8	28.8	36.3	47.1				
LOS	B	C	B	B	B	C	D	D				
Approach Delay	19.9	19.9	19.9	13.0	13.0	34.5	47.1	47.1				
Approach LOS	B	B	B	B	B	C	D	D				
Queue Length 50th (ft)	2	106	41	34	52	43	156	117				
Queue Length 95th (ft)	8	196	89	71	129	69	201	170				
Internal Link Dist (ft)	271	271	271	172	172	261	261	252				
Turn Bay Length (ft)	60	60	80	80	80	160	160	160				
Base Capacity (vph)	631	841	708	614	1052	273	621	450				
Starvation Cap Reductn	0	0	0	0	295	645	0	0				
Spillback Cap Reductn	0	0	0	0	0	0	0	0				
Storage Cap Reductn	0	0	0	0	0	0	0	0				
Reduced v/c Ratio	0.01	0.32	0.16	0.42	0.49	0.33	0.46	0.43				
Intersection Summary												
Area Type:	Other											
Cycle Length:	100											

APPENDIX - I
2023 Build Capacity Analysis

Lanes, Volumes, Timings
 1: Warren Rd/Warren Road & Detroit Ave
 One Lakewood Place
 2023 Build - AM Peak Hour

Activated Cycle Length: 100
 Offset: 0.0(s), Referenced to phase 2-EBTL and 6-WBTL Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay: 28.4
 Intersection Capacity Utilization: 48.8%
 ICU Level of Service: A
 Analysis Period (min): 15



Lanes, Volumes, Timings
 2: St Charles Ave & Detroit Ave
 One Lakewood Place
 2023 Build - AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NSR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NSR	SBL	SBT	SBR
Traffic Volume (vph)	68	275	26	31	248	13	13	54	40	9	36	28
Future Volume (vph)	68	275	26	31	248	13	13	54	40	9	36	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	15	15	10	12	12	10	10	10	13	13	13
Grade (%)	80	-1%	0	70	1%	0	0	-1%	0	0	0	0
Storage Length (ft)	1	0	0	1	0	0	0	0	0	0	0	0
Taper Length (ft)	25	0	0	25	0	0	25	0	0	25	0	0
Static Flow (prot)	1935	1970	0	1627	1798	0	0	1603	0	0	1805	0
Flt Permitted	0.575	0.575	0	0.551	0.575	0	0	0.543	0	0	0.938	0
Static Flow (perm)	1159	1970	0	937	1798	0	0	1518	0	0	1697	0
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Link Speed (mph)	8	8	8	4	4	4	4	32	32	25	25	25
Link Distance (ft)	25	252	252	272	272	272	272	401	401	313	313	313
Travel Time (s)	6.9	6.9	6.9	7.4	7.4	7.4	7.4	10.9	10.9	8.5	8.5	8.5
Cont. Peds. (#/hr)	18	18	15	15	18	18	12	12	41	41	41	12
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	5%	4%	3%	4%	8%	4%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)	77	350	0	36	303	0	0	125	0	0	85	0
Lane Group Flow (vph)	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Prohibited Phases	2	2	2	6	6	6	8	8	4	4	4	4
Permitted Phases	2	2	2	6	6	6	8	8	4	4	4	4
Total Split (s)	62.0	62.0	62.0	62.0	62.0	62.0	38.0	38.0	38.0	38.0	38.0	38.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Act Effect Green (s)	16.4	16.4	16.4	16.4	16.4	16.4	7.5	7.5	7.5	7.5	7.5	7.5
Actuated g/c Ratio	0.53	0.53	0.53	0.53	0.53	0.53	0.24	0.24	0.24	0.24	0.24	0.24
v/c Ratio	0.12	0.33	0.12	0.07	0.32	0.07	0.32	0.19	0.19	0.19	0.19	0.19
Control Delay	6.8	7.2	6.8	6.3	7.3	6.8	10.1	10.1	7.8	7.8	7.8	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.6	7.2	6.6	6.3	7.3	6.6	10.1	10.1	7.8	7.8	7.8	7.8
LOS	A	A	A	A	A	A	B	B	A	A	A	A
Approach Delay	7.1	7.1	7.1	7.2	7.2	7.2	10.1	10.1	7.8	7.8	7.8	7.8
Approach LOS	A	A	A	A	A	A	B	B	A	A	A	A
Queue Length 50th (ft)	7	33	7	3	29	7	10	10	5	5	5	5
Queue Length 95th (ft)	22	75	22	13	67	22	38	38	26	26	26	26
Internal Link Dist (ft)	172	172	172	192	192	192	321	321	233	233	233	233
Turn Bay Length (ft)	80	80	80	70	70	70	146	146	162	162	162	162
Base Capacity (vph)	1159	1970	1159	937	1798	1159	146	146	162	162	162	162
Station Cap Reductn	0	69	0	0	29	0	0	0	0	0	0	0
Scallback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.18	0.07	0.04	0.17	0.07	0.08	0.08	0.05	0.05	0.05	0.05

Lanes, Volumes, Timings
2- St Charles Ave & Detroit Ave

One Lakewood Place
2023 Build - AM Peak Hour

Actuated Cycle Length: 30.7	Intersection LOS: A
Control Type: Semi-Act-Uncoord	ICU Level of Service: A
Maximum v/c Ratio: 0.33	
Intersection Signal Delay: 7.6	
Intersection Capacity Utilization: 42.3%	
Analysis Period (min): 15	



Lanes, Volumes, Timings
3- Belle Ave & Detroit Ave

One Lakewood Place
2023 Build - AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	34	237	57	19	209	24	36	84	36	23	75	50
Future Volume (vph)	34	237	57	19	209	24	36	84	36	23	75	50
Ideal Flow (vph/ft)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	12	10	10	10	10	10	10	11	11	11
Grade (%)			0%		-2%			1%		3%		
Storage Length (ft)	100	100	100	100	100	0	100	0	90	0	0	0
Storage Lanes	1	1	0	1	1	0	0	0	1	0	0	0
Sat'd Length (ft)	25	1546	1705	1615	1547	1682	0	1714	1500	0	1787	1538
Sat'd Flow (pcph)	0.557			0.550			0.985		0.988		0.988	
Flt Permitted												
Sat'd Flow (Perm)	898	1705	1551	888	1682	0	1680	1450	0	1783	1381	
Right Turn on Red			Yes			Yes		Yes			Yes	
Sat'd Flow (RTOR)			79		8		88			88		
Link Speed (mph)		25			25		25		25		25	
Link Distance (ft)		272			278		214		306		306	
Travel Time (s)		7.4			7.6		3.8		8.3		8.3	
Cont. Peds. (#/hr)	14		13	13	14	14	30	5	5	5	30	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	
Heavy Vehicles (%)	9%	4%	0%	10%	5%	0%	2%	0%	0%	0%	0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	296	71	24	291	0	150	45	0	123	63	
Turn Type	Perm	N/A	Perm	Perm	N/A	Split	N/A	Split	N/A	Split	N/A	Perm
Protected Phases	2		2	6		8		8		4		4
Total Split (s)	53.0	53.0	53.0	53.0	53.0	24.0	24.0	23.0	23.0	23.0	23.0	
Total Lost Time (s)	5.8	5.8	5.8	5.8	5.8		5.1	5.1	5.1	5.1	5.1	
Act Effct Green (s)	18.4	18.4	18.4	18.4	18.4	10.5	10.5	9.5	9.5	9.5	9.5	
Actuated g/C Ratio	0.35	0.35	0.35	0.35	0.35	0.20	0.20	0.18	0.18	0.18	0.18	
v/c Ratio	0.14	0.49	0.12	0.08	0.48	0.43	0.12	0.38	0.20	0.20	0.20	
Control Delay	15.7	18.9	4.4	15.1	18.4	24.9	2.6	25.0	5.7	5.7	5.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	15.7	18.9	4.4	15.1	18.4	24.9	2.6	25.0	5.7	5.7	5.7	
LOS	B	B	A	B	B	C	C	A	A	C	A	
Approach Delay		16.1			18.1		19.7		18.5		18.5	
Approach LOS		B			B		B		B		B	
Queue Length 50th (ft)	9	72	0	5	69	39	0	32	0	32	0	
Queue Length 95th (ft)	29	142	16	19	137	81	4	81	14	81	14	
Internal Link Dist (ft)		192			198		134		226		226	
Turn Bay Length (ft)	100		100	100								
Base Capacity (vph)	798	1512	1393	787	1492	655	607	647	554	647	554	
Starvation Cap Reductn	0	63	0	0	61	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.05	0.20	0.05	0.03	0.20	0.23	0.07	0.19	0.11	0.19	0.11	
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												

Lanes, Volumes, Timings
3: Belle Ave & Detroit Ave

One Lakewood Place
2023 Build - AM Peak Hour

Actuated Cycle Length: 51.9	Intersection LOS: B
Control Type: Semi-Act-Unicoord	ICU Level of Service: A
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 17.7	
Intersection Capacity Utilization: 43.8%	
Analysis Period (min): 15	



Lanes, Volumes, Timings
4: Marlowe Ave & Detroit Ave

One Lakewood Place
2023 Build - AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	2	2	4	2	2	1	1	1	1	1	1
Traffic Volume (vph)	15	274	2	45	229	17	10	57	39	32	51	13
Future Volume (vph)	15	274	2	45	229	17	10	57	39	32	51	13
Ideal Flow (vph/pl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	11	10	12	12	11	11	11	11	11	11
Grade (%)		2%		0%	0%	0%	-3%					
Storage Length (ft)	100	0	0	60	0	0	0	0	0	0	0	0
Tracer Length (ft)	1	1	0	1	0	0	0	0	0	0	0	0
Sat'd Flow (prot)	1668	1733	0	1504	1810	0	0	1657	0	0	1701	0
PI Permitted	0.555			0.544				0.951			0.848	
Sat'd Flow (perm)	966	1733	0	857	1810	0	0	1583	0	0	1463	0
Right Turn on Red			No			No			No			No
Sat'd Flow (RTOR)												
Link Speed (mph)		25			25				25			25
Link Distance (ft)		278			212				234			327
Travel Time (s)		7.6			5.8				6.4			8.9
Confl. Peds. (#/hr)	12		11	11		12	2		3	3		2
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	0%	4%	100%	12%	4%	0%	10%	0%	12%	0%	0%	9%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	20	364	0	59	323	0	0	139	0	0	139	0
Turn Type	Perm	NA	NA	Perm	NA	NA	Perm	NA	NA	Perm	NA	NA
Protected Phases	2		2		6		8		8		4	
Total Split (s)	70.0	70.0		70.0	70.0		30.0		30.0		30.0	
Total Lost Time (s)	5.1	5.1		5.1	5.1		5.1		5.1		5.1	
Act Effct Green (s)	17.7	17.7		17.7	17.7		8.6		8.6		8.6	
Actuated g/C Ratio	0.54	0.54		0.54	0.54		0.26		0.26		0.26	
v/c Ratio	0.04	0.39		0.13	0.33		0.34		0.36		0.36	
Control Delay	6.1	8.3		7.0	7.7		13.2		13.9		13.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0		0.0		0.0	
Total Delay	6.1	8.3		7.0	7.7		13.2		13.9		13.9	
LOS	A	A		A	A		B		B		B	
Approach Delay		8.2			7.6				13.9			
Approach LOS		A			A				B			
Queue Length 50th (ft)		2			6				17			
Queue Length 95th (ft)		8			18				48			
Internal Link Dist. (ft)		198			132				154			
Turn Bay Length (ft)		100			60				1226			
Base Capacity (vph)		986			867				1133			
Starvation Cap Reductn		0			0				0			
Spillback Cap Reductn		0			0				0			
Storage Cap Reductn		0			0				0			
Reduced v/c Ratio		0.02			0.07				0.11			

Intersection Summary
Area Type: Other
Cycle Length: 100

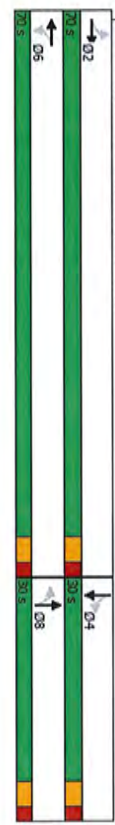
Lanes, Volumes, Timings
 4: Marlowe Ave & Detroit Ave

One Lakewood Place
 2023 Build - AM Peak Hour

Activated Cycle Length: 32.8
 Control Type: Semi Act/Uncontrolled
 Maximum v/c Ratio: 0.39
 Intersection Signal Delay: 9.4
 Intersection Capacity Utilization: 43.9%
 Analysis Period (min): 15

Intersection LOS: A
 ICU Level of Service: A

Splits and Phases: 4: Marlowe Ave & Detroit Ave



HCM 2010 TWSC
 5: Lincoln Ave & Detroit Ave

One Lakewood Place
 2023 Build - AM Peak Hour

Intersection	Int Delay, s/veh											
	EBL			EBT			WBL			WBT		
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	3	344	7	22	278	6	6	1	37	1	1	7
Traffic Vol, veh/h	3	344	7	22	278	6	6	1	37	1	1	7
Future Vol, veh/h	9	0	7	7	0	9	0	0	0	0	0	0
Conflicting Peds, #/hr	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Sign Control	-	-	None	-	-	None	-	-	None	-	-	None
RT Channelized	80	-	0	-	0	-	-	-	0	-	-	-
Storage Length	-	-	0	-	0	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	0	-	0	-	-	0	-	-	-
Grade, %	-	0	-	0	-	0	-	-	-2	-	-	6
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	0	4	14	0	4	0	0	0	0	0	0	0
Mount Flow	4	447	9	29	361	8	8	1	48	1	1	9

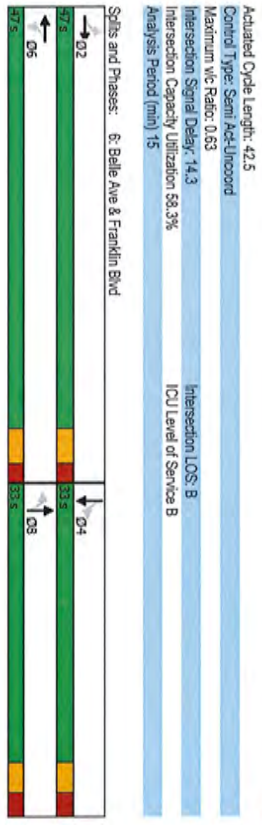
Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	378	0	463	0
Stage 1	-	-	467	467
Stage 2	-	-	428	436
Critical Hdwy	4.1	-	6.7	6.1
Critical Hdwy Sig 1	-	-	5.7	5.1
Critical Hdwy Sig 2	-	-	5.7	5.1
Follow-up Hdwy	2.2	-	3.5	4
Platoon Maneuver	1192	-	291	309
Stage 1	-	-	611	595
Stage 2	-	-	638	612
Platoon Blocked, %	-	-	-	-
Maneuver Cap-1	1183	-	278	297
Maneuver Cap-2	-	-	278	297
Stage 1	-	-	606	591
Stage 2	-	-	611	592
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.6	12.8	14.1
HCM LOS	B	B	B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	579	1183	-	-	1104	-	-	408
HCM Lane V/C Ratio	0.11	0.003	-	-	0.026	-	-	0.029
HCM Control Delay (s)	12.8	8.1	-	-	8.3	-	-	14.1
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM Satn %/sle Q(veh)	0.4	0	-	-	0.1	-	-	0.1

Lanes, Volumes, Timings
 6: Belle Ave & Franklin Blvd
 One Lakewood Place
 2023 Blvd - AM Peak Hour

Area Type:	Other															
Cycle Length:	80															
Intersection Summary																
Storage Cap Reducn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reducn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.29	0.02	0.26	0.18	0.24	0.18	0.24	0.18	0.24	0.18	0.24	0.18	0.24	0.18	0.24
Starvation Cap Reducn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Starvation Cap Reducn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Base Capacity (vph)	813	1581	738	1585	1317	1173	1317	1173	1317	1173	1317	1173	1317	1173	1317	1173
Turn Bay Length (ft)																
Internal Link Dist (ft)	374		205		310		310		310		310		310		310	
Queue Length 50th (ft)	15	74	2	64	41	48	41	48	41	48	41	48	41	48	41	48
Queue Length 85th (ft)	38	132	8	115	88	101	88	101	88	101	88	101	88	101	88	101
Internal Link Dist (ft)	374		205		310		310		310		310		310		310	
Approach Delay	B	B	B	A	B	B	A	B	B	A	B	B	A	B	B	A
Approach LOS	B	B	B	A	B	B	A	B	B	A	B	B	A	B	B	A
Control Type	Semi Act-Uniform															
Activated Cycle Length	42.5															
Maximum v/c Ratio	0.63															
Intersection Signal Delay	14.3															
ICU Level of Service	B															
Intersection Capacity Utilization	58.3%															
Analysis Period (min)	15															

Lanes, Volumes, Timings
 6: Belle Ave & Franklin Blvd
 One Lakewood Place
 2023 Blvd - AM Peak Hour



Intersection												
Int Delay, s/veh	5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Traffic Vol, veh/h	15	363	6	5	282	45	9	44	7	14	26	13
Future Vol, veh/h	15	363	6	5	282	45	9	44	7	14	26	13
Conflicting Peds, #/hr	11	0	28	0	11	1	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	140	-	-	0	-	0	-	-	0	-	-	0
Veh in Median Storage #	0	-	-	0	-	0	-	-	0	-	-	0
Grade, %	-	-1	-	-	-	1	-	-	0	-	-	-1
Peak Hour Factor	67	67	67	67	67	67	67	67	67	67	67	67
Heavy Vehicles, %	0	2	0	0	0	0	6	0	3	0	8	9
Wmnt Flow	22	542	9	7	421	67	13	66	10	21	39	19

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	499	0	579	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.1	-	4.1	-
Critical Hdwy Sig 1	-	-	-	-
Critical Hdwy Sig 2	-	-	-	-
Follow-up Hdwy	2.2	-	2.2	-
Pot Cap-1 Maneuver	1075	-	1005	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1063	-	976	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	38.2	32.3
HCM LOS	E	E	D	D

Minor Lane/Minor Wmnt	NBL	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBT	SBR
Capacity (veh/h)	195	1063	-	-	976	-	-	209	-	-
HCM Lane V/C Ratio	0.459	0.021	-	-	0.008	-	-	0.378	-	-
HCM Control Delay (s)	38.2	8.5	-	-	8.7	-	-	32.3	-	-
HCM Lane LOS	E	A	-	-	A	-	-	D	-	-
HCM 95th %ile Q(veh)	22	0.1	-	-	0	-	-	17	-	-

Intersection												
Int Delay, s/veh	5.2											
Movement	WBL	WBR	NBT	NBR	SBL	SBT						
Lane Configurations	1	1	1	1	1	1						
Traffic Vol, veh/h	55	35	9	77	46	13						
Future Vol, veh/h	55	35	9	77	46	13						
Conflicting Peds, #/hr	0	0	0	0	0	0						
Sign Control	Stop	Stop	Free	Free	Free	Free						
RT Channelized	-	None	-	None	-	None						
Storage Length	0	-	-	-	-	-						
Veh in Median Storage #	0	-	0	-	-	0						
Grade, %	0	-	1	-	-	-1						
Peak Hour Factor	92	92	92	92	92	92						
Heavy Vehicles, %	2	2	2	2	2	2						
Wmnt Flow	60	38	10	84	50	14						

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	166	52	0
Stage 1	52	-	-
Stage 2	114	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Sig 1	5.42	-	-
Critical Hdwy Sig 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	824	1016	-
Stage 1	970	-	-
Stage 2	911	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	796	1016	-
Mov Cap-2 Maneuver	796	-	-
Stage 1	937	-	-
Stage 2	911	-	-
Approach	WB	NB	SB
HCM Control Delay, s	9.7	0	5.8
HCM LOS	A	D	D

Minor Lane/Minor Wmnt	NBT	NBR	NBL	SBL	SBT
Capacity (veh/h)	-	-	889	1500	-
HCM Lane V/C Ratio	-	-	0.113	0.033	-
HCM Control Delay (s)	-	-	9.7	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %ile Q(veh)	-	-	0.4	0.1	-

Intersection									
Int Delay, s/veh									
	WBL	WBR	NBT	NBR	SBL	SBT			
Movement	WBL	WBR	NBT	NBR	SBL	SBT			
Lane Configurations	W	R	T	B					
Traffic Vol, veh/h	27	9	77	38	13	55			
Future Vol, veh/h	27	9	77	38	13	55			
Conflicting Peds, #/hr	0	0	0	0	0	0			
Sign Control	Stop	Stop	Free	Free	Free	Free			
RT Channelized	-	None	-	None	-	None			
Storage Length	0	-	-	-	-	-			
Veh in Median Storage, #	0	-	0	-	-	0			
Grade, %	0	-	-2	-	-	1			
Peak Hour Factor	92	92	92	92	92	92			
Heavy Vehicles, %	2	2	2	2	2	2			
Wmnt Flow	29	10	84	41	14	60			

Major/Minor	Minor1	Major1	Major2	Minor2
Conflicting Flow All	193	105	0	125
Stage 1	105	-	-	-
Stage 2	88	-	-	-
Critical Hdwy	6.42	6.22	-	4.12
Critical Hdwy Sig 1	5.42	-	-	-
Critical Hdwy Sig 2	5.42	-	-	-
Follow-up Hdwy	3.518	3.318	-	2.218
Plat Cap-1 Maneuver	796	949	-	1462
Stage 1	919	-	-	-
Stage 2	935	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	788	949	-	1462
Mov Cap-2 Maneuver	788	-	-	-
Stage 1	910	-	-	-
Stage 2	935	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	1.4
HCM LOS	A		

Minor Lane/Major Wmnt	NBT	WBR/WBRT	SBL	SBT
Capacity (veh/h)	-	823	1462	-
HCM Lane V/C Ratio	-	0.048	0.01	-
HCM Control Delay (s)	-	9.6	7.5	0
HCM Lane LOS	-	A	A	A
HCM 95th %ile Q(veh)	-	0.1	0	-

Intersection									
Int Delay, s/veh									
	EBL	EBR	NBL	NBT	SBL	SBT			
Movement	EBL	EBR	NBL	NBT	SBL	SBT			
Lane Configurations	W	R	T	B					
Traffic Vol, veh/h	41	27	38	9	13	62			
Future Vol, veh/h	41	27	38	9	13	62			
Conflicting Peds, #/hr	0	0	0	0	0	0			
Sign Control	Stop	Stop	Free	Free	Free	Free			
RT Channelized	-	None	-	None	-	None			
Storage Length	0	-	-	-	-	-			
Veh in Median Storage, #	0	-	0	0	0	0			
Grade, %	0	-	-	1	-1	-			
Peak Hour Factor	92	92	92	92	92	92			
Heavy Vehicles, %	2	2	2	2	2	2			
Wmnt Flow	45	29	41	10	14	67			

Major/Minor	Minor2	Major1	Major2	Minor2
Conflicting Flow All	140	48	81	0
Stage 1	48	-	-	-
Stage 2	92	-	-	-
Critical Hdwy	6.42	6.22	4.12	-
Critical Hdwy Sig 1	5.42	-	-	-
Critical Hdwy Sig 2	5.42	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-
Plat Cap-1 Maneuver	853	1021	1517	-
Stage 1	974	-	-	-
Stage 2	932	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	830	1021	1517	-
Mov Cap-2 Maneuver	830	-	-	-
Stage 1	948	-	-	-
Stage 2	932	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	6	0
HCM LOS	A		

Minor Lane/Major Wmnt	NBL	NBT	EBL	EBR	SBT	SBR
Capacity (veh/h)	1517	-	897	-	-	-
HCM Lane V/C Ratio	0.027	-	0.082	-	-	-
HCM Control Delay (s)	7.4	0	9.4	-	-	-
HCM Lane LOS	A	A	A	-	-	-
HCM 95th %ile Q(veh)	0.1	-	0.3	-	-	-

Intersection	EBL	EBR	NBL	NBT	SBT	SSR
Int Delay, s/veh	2.3					
Movement	EBL	EBR	NBL	NBT	SBT	SSR
Lane Configurations	1	1	1	1	1	1
Traffic Vol, veh/h	9	9	13	38	27	13
Future Vol, veh/h	9	9	13	38	27	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	0	-
Veh in Median Storage	0	-	-	0	0	-
Grade %	0	-	-	1	-1	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	10	14	41	29	14
Major/Minor	Minor2	Major1	Major2	Major2	Major2	Major2
Conflicting Flow All	105	36	43	0	-	0
Stage 1	89	-	-	-	-	-
Stage 2	6,42	6,22	4,12	-	-	-
Critical Hdwy Sig 1	5,42	-	-	-	-	-
Critical Hdwy Sig 2	3,518	3,318	2,218	-	-	-
Follow-up Hdwy	893	1037	1566	-	-	-
Platoon blocked, %	954	-	-	-	-	-
Stage 1	986	-	-	-	-	-
Stage 2	954	-	-	-	-	-
Mov Cap-1 Maneuver	885	1037	1566	-	-	-
Mov Cap-2 Maneuver	885	-	-	-	-	-
Stage 1	977	-	-	-	-	-
Stage 2	954	-	-	-	-	-
Approach	EB	NB	SB	SB	SB	SB
HCM Control Delay, s	8.8	1.9	0	0	0	0
HCM LOS	A	A	A	A	A	A
Minor Lane/Minor Mvmt	NBL	NBT	EB/RT	SBT	SBR	SBR
Capacity (veh/h)	1666	-	965	-	-	-
HCM Lane V/C Ratio	0.009	-	0.02	-	-	-
HCM Control Delay (s)	7.3	0	8.8	-	-	-
HCM Lane LOS	A	A	A	-	-	-
HCM 95th %ile Q(veh)	0	-	0.1	-	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SSL	SBT	SSR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Traffic Volume (vph)	19	297	132	141	333	16	198	134	141	1	149	22
Future Volume (vph)	19	297	132	141	333	16	198	134	141	1	149	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	9	11	12	10	12	12	10	11	11	16	16	16
Grade (%)	1%	-	-	-	-	-	-	-	-	-	-	-
Storage Length (ft)	60	-	-	80	-	-	0	160	-	0	-	-
Taper Length (ft)	1	-	-	1	-	-	0	1	-	0	-	-
Satd. Flow (vph)	1539	1809	1575	1660	1836	0	1693	1654	0	0	2032	0
Flt. Permitted	0.528	-	-	0.327	-	-	0.328	-	-	0	0.989	-
Satd. Flow (perm)	833	1809	1464	560	1836	0	580	1654	0	0	2028	0
Right Turn on Red	-	-	-	-	-	-	-	-	-	-	-	-
Satd. Flow (RTOR)	-	-	-	-	-	-	-	-	-	-	-	-
Link Speed (mph)	25	-	-	25	-	-	25	-	-	25	-	-
Link Distance (ft)	351	-	-	252	-	-	341	-	-	332	-	-
Travel Time (s)	9.6	-	-	6.9	-	-	9.3	-	-	9.1	-	-
Conf. Peds. (#/hr)	40	-	-	35	-	-	40	-	-	13	-	-
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	1%	2%	1%	2%	2%	0%	1%	2%	1%	5%	5%
Shaded Lane Traffic (%)	21	323	143	153	379	0	215	299	0	0	187	0
Lane Group Flow (vph)	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	5	2	2	6	8	3	8	4	4	4	4	4
Permitted Phases	12,1	39,0	39,0	16,0	42,9	22,0	45,0	23,0	23,0	23,0	23,0	23,0
Total Spilt (s)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Total Lost Time (s)	25.6	19.3	19.3	33.6	30.1	29.6	29.6	12.3	12.3	12.3	12.3	12.3
Act. Effct Green (s)	0.35	0.26	0.26	0.45	0.41	0.40	0.40	0.17	0.17	0.17	0.17	0.17
Actuated g/c Ratio	0.06	0.09	0.09	0.39	0.51	0.52	0.45	0.56	0.56	0.56	0.56	0.56
Wt-Ratio	13.3	33.8	26.9	16.0	22.3	21.7	20.2	37.9	37.9	37.9	37.9	37.9
Control Delay	0.0	0.0	0.0	0.5	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	13.3	33.8	26.9	16.5	23.6	21.7	20.2	37.9	37.9	37.9	37.9	37.9
Total Delay	13.3	33.8	26.9	16.5	23.6	21.7	20.2	37.9	37.9	37.9	37.9	37.9
LOS	B	C	C	B	C	C	C	C	C	C	C	C
Approach Delay	30.9	-	-	21.6	-	-	20.8	-	-	37.9	-	-
Approach LOS	C	C	C	C	C	C	C	C	C	C	C	C
Queue Length 50th (ft)	5	132	53	39	111	66	97	79	79	79	79	79
Queue Length 95th (ft)	19	252	118	90	281	143	203	173	173	173	173	173
Internal Link Dist (ft)	271	-	-	172	-	-	261	-	-	252	-	-
Turn Bay Length (ft)	60	-	-	80	-	-	160	-	-	160	-	-
Base Capacity (vph)	368	864	699	422	978	486	936	511	511	511	511	511
Station Cap Reductn	0	0	0	0	78	388	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.37	0.20	0.44	0.65	0.43	0.32	0.37	0.37	0.37	0.37	0.37
Intersection Summary	Other											
Area Type:	Other											
Cycle Length:	100											

Lanes, Volumes, Timings
 1: Warren Rd/Warren Road & Detroit Ave
 2023 Build - PM Peak Hour

Actuated Cycle Length: 74.2
 Control Type: Semi-Act/Unicoord
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 25.8
 Intersection LOS: C
 Intersection Capacity Utilization: 66.2%
 ICU Level of Service: C
 Analysis Period (min): 15



Lanes, Volumes, Timings
 2: St Charles Ave & Detroit Ave
 2023 Build - PM Peak Hour

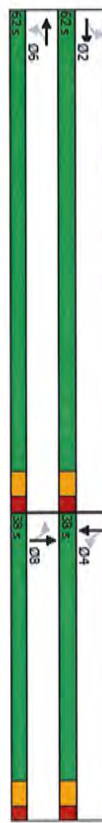
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	39	363	36	37	417	32	17	39	20	22	82	60
Traffic Volume (vph)	39	363	36	37	417	32	17	39	20	22	82	60
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	14	15	15	10	12	12	10	10	10	13	13	13
Lane Width (ft)	-1%											
Grade (%)	80	0	70	1	1	0	0	0	0	0	0	0
Storage Length (ft)	1	1	0	1	1	0	0	0	0	0	0	0
Taper Length (ft)	25	25	0	25	1829	0	0	1659	0	0	1756	0
Sat'd. Flow (vph)	1879	2044	0	1675	1829	0	0	1659	0	0	1756	0
Flt. Permitted	0.416			0.466				0.887			0.936	
Sat'd. Flow (perm)	810	2044	0	812	1829	0	0	1497	0	0	1682	0
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (fmph)	8	8		6	6			20			38	
Link Distance (ft)	25	252		25	272			146			25	
Travel Time (s)	6.9			7.4				4.0			8.5	
Cont'd. Peds. (ft/hr)	39	28	28	28	39	21	23	23	23	23	21	21
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	1%	0%	0%	2%	0%	0%	3%	0%	0%	2%	0%
Shared Lane Traffic (%)	44	454	0	42	510	0	0	86	0	0	163	0
Lane Group Flow (vph)	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Prohibited Phases	2	2		6	6		8	8		4	4	
Permitted Phases	2	2		6	6		8	8		4	4	
Total Split (s)	62.0	62.0		62.0	62.0		38.0	38.0		38.0	38.0	
Total Lost Time (s)	5.1	5.1		5.1	5.1		5.1	5.1		5.1	5.1	
Act Effct Green (s)	19.7	19.7		19.7	19.7		9.0	9.0		9.0	9.0	
Actuated g/c Ratio	0.50	0.50		0.50	0.50		0.23	0.23		0.23	0.23	
v/c Ratio	0.11	0.44		0.10	0.55		0.24	0.40		0.40	0.40	
Control Delay	6.5	8.1		6.4	9.8		12.1	12.1		13.4	13.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	6.5	8.1		6.4	9.8		12.1	12.1		13.4	13.4	
LOS	A	A		A	A		B	B		B	B	
Approach Delay		8.0			9.5			12.1			13.4	
Approach LOS		A			A			B			B	
Queue Length 50th (ft)	4	50		4	61			10			19	
Queue Length 95th (ft)	17	116		17	144			40			65	
Internal Link Dist (ft)		172			192			68			233	
Turn Bay Length (ft)	80			70								
Base Capacity (vph)	810	2044		812	1829			1281			1424	
Stationing Cap Reductn	0	291		0	130			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.05	0.26		0.05	0.30			0.07			0.11	

Intersection Summary
 Area Type: Other
 Cycle Length: 100

Lanes, Volumes, Timings
2: St Charles Ave & Detroit Ave

One Lakewood Place
2023 Build - PM Peak Hour

Actuated Cycle Length: 39.1
 Control Type: Semi Act-Linkwood
 Maximum v/c Ratio: 0.55
 Intersection Signal Delay: 9.6
 Intersection Capacity Utilization: 51.6%
 Analysis Period (min): 15
 Intersection LOS: A
 ICU Level of Service: A



Lanes, Volumes, Timings
3: Belle Ave & Detroit Ave

One Lakewood Place
2023 Build - PM Peak Hour

Lane Group	EBL	EBT	EER	WBL	WBT	WER	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	36	313	66	23	346	38	69	86	23	22	85	79
Future Volume (vph)	36	313	66	23	346	38	69	86	23	22	85	79
Ideal Flow (vph/pl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	12	10	10	10	10	10	10	11	11	11
Grade (%)	0%	0%	0%	-2%	-2%	0%	1%	1%	0%	3%	3%	0
Storage Length (ft)	100	100	100	100	100	0	100	0	90	0	0	0
Taper Length (ft)	1	1	0	1	1	0	0	0	1	0	0	1
Satd. Flow (req)	1685	1739	1615	1702	1719	0	0	1726	1500	0	1791	1538
PI/Permited	0.399	0.399	0.399	0.480	0.480	0.978	0.978	0.978	0.990	0.990	0.990	1538
Satd. Flow (perm)	697	1739	1532	862	1719	0	0	1670	1500	0	1785	1538
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)	25	79	79	8	8	25	25	25	88	25	25	87
Link Speed (mph)	25	272	272	278	278	278	278	278	278	278	278	278
Link Distance (ft)	28	7.4	7.4	30	30	28	32	32	6	6	6	32
Travel Time (s)	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Confl. Peds. (ft/hr)	0%	2%	0%	0%	2%	3%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)	40	344	73	25	422	0	0	171	25	0	117	87
Lane Group Flow (vph)	Perm	NA	Perm	Perm	NA	Split	NA	Split	NA	Split	NA	Perm
Turn Type	2	2	2	6	6	8	8	8	4	4	4	4
Permitted Phases	2	2	2	6	6	8	8	8	4	4	4	4
Total Split (s)	53.0	53.0	53.0	53.0	53.0	24.0	24.0	24.0	23.0	23.0	23.0	23.0
Total Lost Time (s)	5.8	5.8	5.8	5.8	5.8	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Act. Effct Green (s)	22.8	22.8	22.8	22.8	22.8	12.0	12.0	12.0	9.9	9.9	9.9	9.9
Actuated g/c Ratio	0.39	0.39	0.39	0.39	0.39	0.21	0.21	0.21	0.17	0.17	0.17	0.17
v/c Ratio	0.15	0.51	0.11	0.07	0.52	0.48	0.07	0.38	0.26	0.26	0.26	0.26
Control Delay	13.9	18.6	4.1	14.6	20.8	28.9	0.3	28.8	9.5	9.5	9.5	9.5
Queue Delay	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.9	18.7	4.1	14.6	20.9	28.9	0.3	29.8	9.5	9.5	9.5	9.5
LOS	B	B	A	B	C	C	A	C	A	A	A	A
Approach Delay	16.1	16.1	16.1	20.6	20.6	25.3	25.3	25.3	21.1	21.1	21.1	21.1
Approach LOS	B	B	A	C	C	C	A	C	A	A	A	A
Queue Length 50th (ft)	9	92	0	6	117	53	37	37	0	0	0	0
Queue Length 95th (ft)	34	204	22	23	258	137	104	104	38	38	38	38
Internal Link Dist (ft)	192	192	192	198	198	94	94	94	226	226	226	226
Turn Bay Length (ft)	100	100	100	100	100	609	585	599	572	572	572	572
Base Capacity (vph)	585	1411	1258	699	1397	609	585	599	572	572	572	572
Starvation Cap Reducn	0	198	0	0	178	0	0	0	0	0	0	0
Spillback Cap Reducn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reducn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.28	0.08	0.04	0.35	0.28	0.04	0.20	0.15	0.15	0.15	0.15
Intersection Summary	Other											
Area Type:	Other											
Cycle Length:	100											

Lanes, Volumes, Timings
3: Belle Ave & Detroit Ave

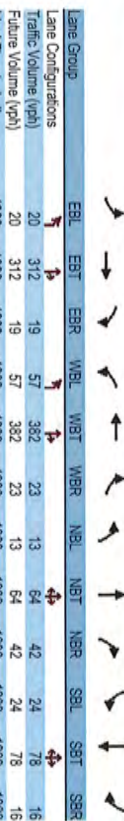
One Lakewood Place
2023 Build - PM Peak Hour

Activated Cycle Length: 58.3
Control Type: Semi Act-Unicoord
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 19.8
Intersection LOS: B
ICU Level of Service: A
Intersection Capacity Utilization: 53.9%



Lanes, Volumes, Timings
4: Marlowe Ave & Detroit Ave

One Lakewood Place
2023 Build - PM Peak Hour

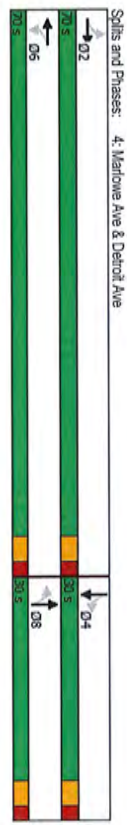


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	20	312	19	57	382	23	13	64	42	24	78	16
Traffic Volume (Vph)	20	312	19	57	382	23	13	64	42	24	78	16
Future Volume (Vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Base Capacity (Vph)	10	11	11	10	12	12	11	11	11	11	11	11
Lane Width (ft)	100	2%	0	60	0%	0	0	0	0	0	0	0
Storage Length (ft)	1	1	0	1	1	0	0	0	0	0	0	0
Taper Length (ft)	25	1668	0	25	1685	1841	0	1727	0	0	1727	0
Satd. Flow (prot)	0.480	1766	0	0.540	1841	0	0	0.942	0	0	0.894	0
Fit Permitted	837	1766	0	943	1841	0	0	1641	0	0	1557	0
Satd. Flow (Perm)	No	No	No	No	No	No	No	No	No	No	No	No
Right Turn on Red Satd. Flow (RTOR)	25	278	7.6	25	212	184	184	327	184	327	184	327
Link Speed (mph)	16	34	34	16	34	16	1	5	5	5	1	1
Travel Time (s)	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Control Pests. (#/hr)	0%	2%	0%	0%	2%	4%	8%	0%	0%	0%	0%	0%
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	2%	0%	0%	2%	4%	8%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)	22	372	0	64	455	0	0	134	0	0	133	0
Lane Group Flow (Vph)	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Turn Type	2	2	2	6	6	8	8	8	8	8	8	8
Protected Phases	70.0	70.0	70.0	70.0	70.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Total Split (s)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Total Lost Time (s)	20.0	20.0	20.0	20.0	20.0	8.7	8.7	8.7	8.7	8.7	8.7	8.7
Act Effct Green (s)	0.57	0.57	0.57	0.57	0.57	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Actuated g/c Ratio	0.05	0.37	0.12	0.43	0.33	0.35	0.35	0.35	0.35	0.35	0.35	0.35
v/c Ratio	5.8	7.6	0.0	6.4	8.2	14.7	14.7	15.0	15.0	15.0	15.0	15.0
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	5.8	7.6	0.0	6.4	8.2	14.7	14.7	15.0	15.0	15.0	15.0	15.0
Total Delay	LOS A	LOS A	LOS A	LOS A	LOS A	LOS B	LOS B	LOS B	LOS B	LOS B	LOS B	LOS B
Approach Delay	7.5	7.5	7.5	7.9	7.9	14.7	14.7	15.0	15.0	15.0	15.0	15.0
Approach LOS	A	A	A	A	A	B	B	B	B	B	B	B
Queue Length 50th (ft)	2	41	6	53	19	19	19	19	19	19	19	19
Queue Length 95th (ft)	10	97	22	121	63	63	63	63	63	63	63	63
Internal Link Dist. (ft)	198	198	132	104	104	247	247	247	247	247	247	247
Turn Bay Length (ft)	100	100	60	837	1766	1841	1135	1135	1135	1135	1135	1135
Base Capacity (Vph)	0	93	0	0	0	0	0	0	0	0	0	0
Stallion Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reductd v/c Ratio	0.03	0.22	0.07	0.25	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
Intersection Summary	Other											
Area Type:	Other											
Cycle Length:	100											

Lanes, Volumes, Timings
4: Marlowe Ave & Detroit Ave

One Lakewood Place
2023 Build - PM Peak Hour

Actuated Cycle Length: 35.2	Intersection LOS: A
Control Type: Semi-Act-Uncoord	ICU Level of Service: A
Maximum v/c Ratio: 0.43	
Intersection Signal Delay: 9.4	
Intersection Capacity Utilization: 49.3%	
Analysis Period (min): 15	



HCM 2010 TWSC
5: Lincoln Ave & Detroit Ave

One Lakewood Place
2023 Build - PM Peak Hour

Intersection	EBL		EBR		WBL		WBR		NBL		NBR		SBL		SBR	
Int Delay, s/veh	2															
Lane Configurations	9	3/71	16	4/6	4/33	8	9	0	2/6	9	6	16				
Traffic Vol, veh/h	9	371	16	46	433	8	9	0	26	9	6	16				
Future Vol, veh/h	0	371	16	46	433	8	9	0	26	9	6	16				
Conflicting Peds, #/hr	30	0	19	19	0	30	4	0	1	1	0	4				
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop				
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None				
Storage Length	80	-	0	-	0	-	-	-	0	-	-	0				
Veh in Median Storage, #	0	0	0	0	0	0	0	0	0	0	0	0				
Grade, %	-	0	-	0	-	0	-	0	-	0	-	0				
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87				
Heavy Vehicles, %	0	1	0	0	1	0	0	0	0	0	0	0				
Mvmt Flow	10	426	18	53	496	9	10	0	30	10	7	18				

Major/Minor	Major1	Major2	Major1	Major2
Conflicting Flow All	537	0	453	0
Stage 1	-	-	474	474
Stage 2	-	-	625	643
Critical Flow	4.1	-	4.1	-
Critical Heavy Sig 1	-	-	5.7	5.1
Critical Heavy Sig 2	-	-	5.7	5.1
Follow-up Heavy	2.2	-	2.2	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1016	-	1096	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	593	579
Stage 2	-	-	456	470
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.8	15.3	27.3
HCM LOS	C	C	C	D

Factor	Lane/Minor	Major1	EBL	EBT	EBR	WBL	WBT	NBL	NBR	SBL	SBR
Capacity (veh/h)	390	1076	-	-	1096	-	-	189	215	617	115
HCM Lane V/C Ratio	0.103	0.01	-	-	0.048	-	-	0.181	0.115	0.130	0.130
HCM Control Delay (s)	15.3	8.6	-	-	8.5	-	-	27.3	386	356	-
HCM Lane LOS	C	A	-	-	A	-	-	D	-	-	-
HCM 95th Pctile Q(veh)	0.3	0	-	-	0.2	-	-	0.6	-	-	-

Lanes, Volumes, Timings
6: Belle Ave & Franklin Blvd

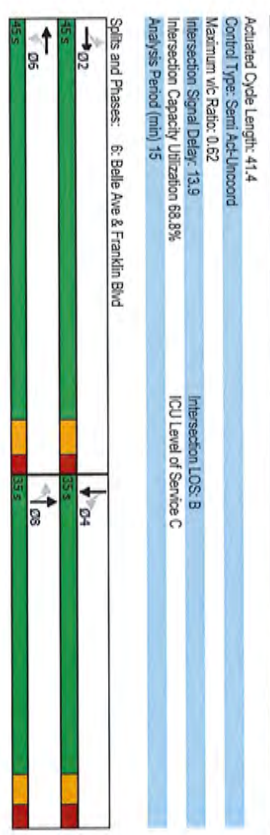
One Lakewood Place
2023 Build - PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Traffic Volume (vph)	47	301	25	19	378	20	9	125	17	56	162	84
Future Volume (vph)	47	301	25	19	378	20	9	125	17	56	162	84
Lead Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	10	10	13	10	10	14	14	14	14	14	14
Grade (%)	0%	0%	0%	0%	0%	0%	-2%	0%	0%	0%	0%	0%
Storage Length (ft)	0	0	0	140	0	0	0	0	0	0	0	0
Taper Length (ft)	25	1	0	1	0	0	0	0	0	0	0	0
Satd. Flow (prot)	1885	1750	0	1885	1757	0	0	2004	0	0	1897	0
Fit Permitted	0.442	0.534	0	0.534	0	0	0	0.967	0	0	0.904	0
Satd. Flow (Perm)	865	1750	0	1044	1757	0	0	1943	0	0	1729	0
Right Turn on Red			Yes			Yes		Yes		Yes		Yes
Satd. Flow (RTOR)		7			5			9		27		25
Link Speed (mph)		35			35			35		35		25
Link Distance (ft)		454			285			390		626		626
Travel Time (s)		8.8			5.6			10.6		17.0		17.0
Contd. Peds. (ft/hr)	6	8	8	8	8	6	10	5	5	5	5	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	51	354	0	21	433	0	0	164	0	0	328	0
Turn Type	Perm	NA	Perm	NA	NA	Perm	NA	Perm	NA	Perm	NA	4
Prohibited Phases	2			6			8			4		
Permitted Phases	45.0	45.0		45.0	45.0		35.0			35.0		35.0
Total Split (s)	5.5	5.5		5.5	5.5		5.5			5.5		5.5
Total Lost Time (s)	16.4	16.4		16.4	16.4		13.3			13.3		13.3
Act Effct Green (s)	0.40	0.40		0.40	0.40		0.32			0.32		0.32
Actuated g/c Ratio	0.15	0.51		0.05	0.62		0.26			0.57		0.57
W/C Ratio	10.0	12.6		8.9	14.8		12.1			16.1		16.1
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0		0.0
Queue Delay	10.0	12.6		8.9	14.8		12.1			16.1		16.1
LOS	A	B		A	B		B			B		B
Approach Delay		12.3			14.5			12.1		16.1		
Approach LOS		B			B			B		B		B
Queue Length 50th (ft)	7	52		3	69		24			51		51
Queue Length 95th (ft)	28	142		14	181		75			149		149
Internal Link Dist (ft)		374			205		310			545		545
Turn Bay Length (ft)		140			140		1467			1310		1310
Base Capacity (vph)	780	1579		942	1585		1467			1310		1310
Stationing Cap. Reductn	0	0		0	0		0			0		0
Spillback Cap. Reductn	0	0		0	0		0			0		0
Storage Cap. Reductn	0	0		0	0		0			0		0
Reduced v/c Ratio	0.07	0.22		0.02	0.27		0.11			0.25		0.25

Area Type: Other
Cycle Length: 80

Lanes, Volumes, Timings
6: Belle Ave & Franklin Blvd

One Lakewood Place
2023 Build - PM Peak Hour



HCM 2010 TWSC
7: Marlowe Ave & Franklin Blvd

One Lakewood Place
2023 Build - PM Peak Hour

Intersection												
Int Delay, s/veh												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Int Delay, s/veh	4.1											
Lane Configurations	1	2	3	1	2	3	4	5	6	7	8	9
Traffic Vol, veh/h	16	351	6	19	389	43	7	37	10	26	54	23
Future Vol, veh/h	16	351	6	19	389	43	7	37	10	26	54	23
Conflicting Peds. #/hr	4	0	9	0	4	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	140	-	-	0	-	0	-	-	0	-	-	0
Veh in Median Storage #	-	-	0	-	0	-	-	-	0	-	-	0
Grade, %	-	-1	-	-	1	-	-	-	0	-	-	-1
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	1	2	0	3	0	1	1
Mvmt Flow	17	382	7	21	423	47	8	40	11	28	59	25

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	474	0	398	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Flow	4.1	-	4.1	-
Critical Hwy Sig 1	-	-	-	-
Critical Hwy Sig 2	-	-	-	-
Follow-up Hdwy	2.2	-	2.2	-
Plat Cap-1 Maneuver	1099	-	1172	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1094	-	1161	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.3	22.2	25.1
HCM LOS	C	C	D	D

Minor Lane/Minor Mvmt	NBLN1	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBT	SBR
Capacity (veh/h)	267	1094	-	-	1161	-	-	289	-	-
HCM Lane V/C Ratio	0.22	0.016	-	-	0.018	-	-	0.387	-	-
HCM Control Delay (s)	22.2	8.3	-	-	8.2	-	-	25.1	-	-
HCM Lane LOS	C	A	-	-	A	-	-	D	-	-
HCM 95th %ile Q(veh)	0.8	0	-	-	0.1	-	-	1.8	-	-

HCM 2010 TWSC
8: Belle Ave & Northern Garage Entrance

One Lakewood Place
2023 Build - PM Peak Hour

Intersection												
Int Delay, s/veh												
Movement	WBL	WBR	NBT	NBR	SBL	SBT						
Int Delay, s/veh	6.1											
Lane Configurations	1	2	3	4	5	6						
Traffic Vol, veh/h	83	54	14	73	48	12						
Future Vol, veh/h	83	54	14	73	48	12						
Conflicting Peds. #/hr	0	0	0	0	0	0						
Sign Control	Stop	Stop	Free	Free	Free	Free						
RT Channelized	-	None	-	None	-	None						
Storage Length	0	-	0	-	-	0						
Veh in Median Storage #	0	-	1	-	-	-1						
Grade, %	0	-	-	-	-	-1						
Peak Hour Factor	92	92	92	92	92	92						
Heavy Vehicles, %	2	2	2	2	2	2						
Mvmt Flow	90	59	15	79	52	13						

Major/Minor	Major1	Major2
Conflicting Flow All	172	55
Stage 1	55	-
Stage 2	117	-
Critical Flow	6.42	6.22
Critical Hwy Sig 1	5.42	-
Critical Hwy Sig 2	5.42	-
Follow-up Hdwy	3.518	3.318
Plat Cap-1 Maneuver	818	1012
Stage 1	988	-
Stage 2	908	-
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	789	1012
Mov Cap-2 Maneuver	934	-
Stage 1	908	-
Stage 2	-	-
Approach	WB	NB
HCM Control Delay, s	10	6
HCM LOS	B	B

Minor Lane/Minor Mvmt	NBT	NBR	SBL	SBT
Capacity (veh/h)	-	884	1500	-
HCM Lane V/C Ratio	-	0.172	0.035	-
HCM Control Delay (s)	-	10	7.5	0
HCM Lane LOS	-	B	A	A
HCM 95th %ile Q(veh)	-	0.6	0.1	-

HCM 2010 TWSC
9: Belle Ave & Southern Garage Entrance

One Lakewood Place
2023 Build - PM Peak Hour

Intersection									
Int Delay, s/veh		2.4							
Movement	WBL	WBR	NBT	NBR	SBL	SBR			
Lane Configurations	4	4	4	4	4	4			
Traffic Vol, veh/h	41	14	73	36	12	83			
Future Vol, veh/h	41	14	73	36	12	83			
Conflicting Peds, #/hr	0	0	0	0	0	0			
Sign Control	Stop	Stop	Free	Free	Free	Free			
RT Channelized	-	None	-	None	-	None			
Storage Length	0	-	-	-	-	-			
Veh in Median Storage, #	0	-	0	-	-	0			
Grade, %	0	-	-2	-	-	1			
Peak Hour Factor	92	92	92	92	92	92			
Heavy Vehicles, %	2	2	2	2	2	2			
Mvmt Flow	45	15	79	39	13	90			

Major/Minor	Minor1	Major1	Major2	Minor2
Conflicting Flow All	215	99	0	118
Stage 1	99	-	-	-
Stage 2	118	-	-	-
Critical Hdwy	6.42	6.22	-	4.12
Critical Hdwy Sig 1	5.42	-	-	-
Critical Hdwy Sig 2	5.42	-	-	-
Follow-up Hdwy	3.518	3.318	-	2.218
Plat Cap-1 Maneuver	773	957	-	1470
Stage 1	925	-	-	-
Stage 2	909	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	766	957	-	1470
Mov Cap-2 Maneuver	766	-	-	-
Stage 1	917	-	-	-
Stage 2	909	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	0.9
HCM LOS	A		

Minor Lane/Minor Mvmt	NBL	NBR	WBL	SBL	SBR
Capacity (veh/h)	-	807	1470	-	-
HCM Lane V/C Ratio	-	0.074	0.009	-	-
HCM Control Delay (s)	-	9.8	7.5	0	0
HCM Lane LOS	-	A	A	A	A
HCM 95th %ile Q(veh)	-	0.2	0	-	-

HCM 2010 TWSC
10: Marlowe Ave & Northern Garage Entrance

One Lakewood Place
2023 Build - PM Peak Hour

Intersection									
Int Delay, s/veh		5.5							
Movement	EBL	EBR	NBL	NBT	SBL	SBR			
Lane Configurations	4	4	4	4	4	4			
Traffic Vol, veh/h	62	41	36	14	12	65			
Future Vol, veh/h	62	41	36	14	12	65			
Conflicting Peds, #/hr	0	0	0	0	0	0			
Sign Control	Stop	Stop	Free	Free	Free	Free			
RT Channelized	-	None	-	None	-	None			
Storage Length	0	-	-	-	-	-			
Veh in Median Storage, #	0	-	0	-	0	-			
Grade, %	0	-	-	-	1	-1			
Peak Hour Factor	92	92	92	92	92	92			
Heavy Vehicles, %	2	2	2	2	2	2			
Mvmt Flow	67	45	39	15	13	71			

Major/Minor	Minor1	Major1	Major2	Minor2
Conflicting Flow All	142	49	84	0
Stage 1	49	-	-	-
Stage 2	93	-	-	-
Critical Hdwy	6.42	6.22	4.12	-
Critical Hdwy Sig 1	5.42	-	-	-
Critical Hdwy Sig 2	5.42	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-
Plat Cap-1 Maneuver	851	1020	1513	-
Stage 1	973	-	-	-
Stage 2	931	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	829	1020	1513	-
Mov Cap-2 Maneuver	829	-	-	-
Stage 1	948	-	-	-
Stage 2	931	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	5.4	0
HCM LOS	A		

Minor Lane/Minor Mvmt	NBL	NBT	WBL	SBL	SBR
Capacity (veh/h)	1513	-	896	-	-
HCM Lane V/C Ratio	0.026	-	0.125	-	-
HCM Control Delay (s)	7.4	0	9.6	-	-
HCM Lane LOS	A	A	A	A	A
HCM 95th %ile Q(veh)	0.1	-	0.4	-	-

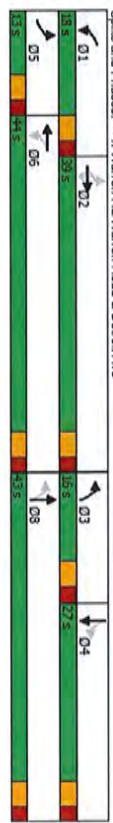
Intersection	25							
In/Delay, s/veh	EBL	EBR	NBL	NBT	SBL	SBR		
Movement	EBL	EBR	NBL	NBT	SBL	SBR		
Lane Configurations	14	14	12	36	41	12		
Traffic Vol, veh/h	14	14	12	36	41	12		
Future Vol, veh/h	0	0	0	0	0	0		
Conflicting Peds #/hr	0	0	0	0	0	0		
Sign Control	Stop	Stop	Free	Free	Free	Free		
RT Channelized	-	None	-	None	-	None		
Storage Length	0	-	-	-	-	-		
Veh in Median Storage #	0	-	-	0	0	-		
Grade, %	0	-	-	1	-1	-		
Peak Hour Factor	92	92	92	92	92	92		
Heavy Vehicles, %	2	2	2	2	2	2		
Mvmt Flow	15	15	13	39	45	13		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	27	330	156	109	318	26	156	138	164	2	121	11
Traffic Volume (vph)	27	330	156	109	318	26	156	138	164	2	121	11
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	9	11	12	10	12	12	10	11	11	16	16	16
Lane Width (ft)	14	14	12	10	12	10	12	10	11	16	16	16
Grade (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	4%	4%	4%
Storage Length (ft)	60	60	60	80	80	0	180	0	0	0	0	0
Storage Lanes	1	1	1	1	1	0	1	0	0	0	0	0
Taper Length (ft)	25	25	25	25	25	0	25	0	0	2021	0	0
Satd. Flow (vph)	1616	1792	1591	1643	1843	0	1693	1650	0	0	0.991	0
RT Permitted	0.518	0.518	0.518	0.343	0.343	0.387	0.387	0.387	0	0	2004	0
Satd. Flow (perm)	860	1792	1476	582	1843	0	647	1650	0	0	2004	0
Right Turn on Red Satd. Flow (RTOR)						No			No			No
Link Speed (mph)	25	25	25	25	25	25	25	25	25	25	25	25
Link Distance (ft)	351	351	351	252	252	252	341	341	341	341	341	341
Travel Time (s)	9.6	9.6	9.6	6.9	6.9	6.9	9.3	9.3	9.3	9.3	9.3	9.3
Cont. Peds. #/hr	36	36	36	36	36	36	12	12	23	23	23	12
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	2%	1%	2%	2%	1%	0%	1%	1%	1%	0%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	28	344	163	114	358	0	163	315	0	0	139	0
Turn Type	pm+ht	NA	Perm	pm+ht	NA	NA	pm+ht	NA	Perm	NA	Perm	NA
Prohibited Phases	5	2	2	6	6	8	3	8	4	4	4	4
Permitted Phases	2	2	2	6	6	8	3	8	4	4	4	4
Total Spill (s)	13.0	39.0	39.0	18.0	44.0	16.0	43.0	27.0	27.0	27.0	27.0	27.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Act. Effect Green (s)	24.8	20.1	20.1	29.6	26.4	23.3	23.3	23.3	11.0	11.0	11.0	11.0
Actuated g/c Ratio	0.38	0.31	0.31	0.45	0.41	0.36	0.36	0.36	0.17	0.17	0.17	0.17
Wt Ratio	0.07	0.62	0.38	0.28	0.48	0.39	0.53	0.53	0.41	0.41	0.41	0.41
Control Delay	10.7	27.3	23.1	12.2	19.1	20.6	22.7	22.7	33.5	33.5	33.5	33.5
Queue Delay	0.0	0.0	0.0	0.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.7	27.3	23.1	12.4	19.5	20.6	22.7	22.7	33.5	33.5	33.5	33.5
LOS	B	C	C	B	B	C	C	C	C	C	C	C
Approach Delay	25.2	25.2	25.2	17.8	17.8	17.8	22.0	22.0	22.0	22.0	22.0	22.0
Approach LOS	C	C	C	B	B	C	C	C	C	C	C	C
Queue Length 50th (ft)	6	127	55	25	91	46	99	54	54	54	54	54
Queue Length 95th (ft)	20	240	118	58	231	114	224	126	126	126	126	126
Internal Link Dist (ft)	271	271	271	172	172	172	261	261	261	261	261	261
Turn Bay Length (ft)	60	60	60	80	80	80	180	180	180	180	180	180
Base Capacity (vph)	446	1035	852	516	1167	434	1026	769	769	769	769	769
Saturation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.33	0.19	0.27	0.48	0.38	0.31	0.31	0.31	0.31	0.31	0.31

Lanes, Volumes, Timings
1: Warren Rd/Warren Road & Detroit Ave

One Lakewood Place
2023 Build - SAT Peak Hour

Actuated Cycle Length: 65.1
Control Type: Semi Act-Unicoord
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 22.8
Intersection LOS: C
Intersection Capacity Utilization: 66.1%
ICU Level of Service: C
Analysis Period (min): 15



Lanes, Volumes, Timings
2: St Charles Ave & Detroit Ave

One Lakewood Place
2023 Build - SAT Peak Hour

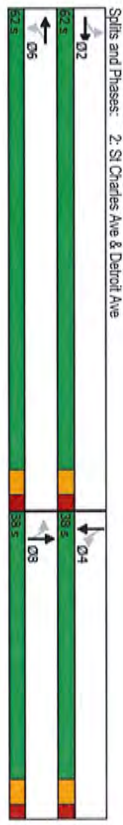
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	28	438	28	35	405	37	14	16	26	15	22
Future Volume (vph)	28	438	28	35	405	37	14	16	26	15	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	15	15	10	12	12	10	10	13	13	13
Grade (%)	-1%	-1%	-1%	1%	1%	1%	-1%	-1%	2%	2%	2%
Storage Length (ft)	80	0	0	70	0	0	0	0	0	0	0
Taper Length (ft)	1	1	0	1	1	0	0	0	0	0	0
Satd. Flow (vph)	1935	2018	0	1676	1840	0	0	1634	0	1754	0
Fit Permited	0.491			0.470				0.889		0.915	
Satd. Flow (vph)	982	2018	0	818	1840	0	0	1463	0	1619	0
Right Turn on Red			Yes			Yes			Yes		Yes
Satd. Flow (RTOR)	5	25		8	25		28	25		40	25
Link Speed (mph)	25	252		272		313		401		313	
Travel Distance (ft)	6.9			7.4		10.9		8.5		8.5	
Travel Time (s)	43	34	34	34	43	43	16	16	9	9	16
Confl. Pests. (fahr)	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Peak Hour Factor	0%	3%	0%	0%	1%	0%	0%	0%	0%	0%	0%
Heavy Vehicles (%)	0%	3%	0%	0%	1%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)	30	501	0	38	475	0	0	50	0	80	0
Lane Group Flow (vph)	Perm	NA	NA	Perm	NA	NA	Perm	NA	Perm	NA	Perm
Turn Type	Perm	NA	NA	Perm	NA	NA	Perm	NA	Perm	NA	Perm
Protected Phases	2			6			8			4	
Permitted Phases	2			6			8			4	
Total Split (s)	62.0	62.0	62.0	62.0	62.0	62.0	38.0	38.0	38.0	38.0	38.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Act Effct Green (s)	23.6	23.6	23.6	23.6	23.6	23.6	6.7	6.7	6.7	6.7	6.7
Actuated g/c Ratio	0.71	0.71	0.71	0.71	0.71	0.71	0.20	0.20	0.20	0.20	0.20
v/c Ratio	0.04	0.35	0.07	0.07	0.37	0.19	0.23	0.23	0.23	0.23	0.23
Control Delay	4.8	5.5	5.0	5.0	5.7	9.8	9.8	9.8	9.4	9.4	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.8	5.5	5.0	5.0	5.7	9.8	9.8	9.8	9.4	9.4	9.4
LOS	A	A	A	A	A	A	A	A	A	A	A
Approach Delay		5.5			5.7			9.8			9.4
Approach LOS		A			A			A			A
Queue Length 50th (ft)	2	48		3	46		5	5		5	6
Queue Length 90th (ft)	10	110		13	108		30	26		30	30
Internal Link Dist (ft)		172			192		321	321		233	233
Turn Bay Length (ft)	80			70							
Base Capacity (vph)	982	2018	0	818	1840	0	0	1393	0	1541	0
Starvation Cap Reductn	0	322	0	0	182	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.30		0.05	0.29		0.04	0.04		0.05	0.05

Intersection Summary
Area Type: Other
Cycle Length: 100

Lanes, Volumes, Timings
2: St Charles Ave & Detroit Ave

One Lakewood Place
2023 Build - SAT Peak Hour

Activated Cycle Length: 33.4
 Control Type: Semi-Act-Uncoord
 Maximum v/c Ratio: 0.37
 Intersection Signal Delay: 6.1
 Intersection LOS: A
 ICU Level of Service: A
 Intersection Capacity Utilization: 43.7%
 Analysis Period (min): 15

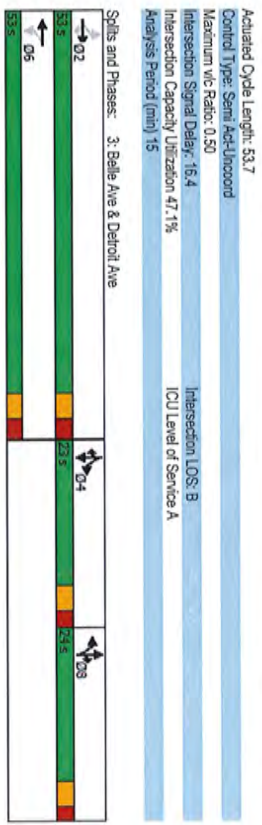


Lanes, Volumes, Timings
3: Belle Ave & Detroit Ave

One Lakewood Place
2023 Build - SAT Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	31	400	61	15	383	22	55	48	17	17	60	45
Future Volume (Vph)	31	400	61	15	383	22	55	48	17	17	60	45
Ideal Flow (Vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	12	10	10	10	10	10	10	11	11	11
Grade (%)	0%	0%	-2%	0%	0%	0%	100%	0%	90%	0%	90%	0%
Storage Length (ft)	100	100	100	100	100	0	100	0	100	0	90	0
Storage Lanes	1	1	0	1	1	0	0	0	1	0	1	0
Taper Length (ft)	25	1589	1739	1615	1702	1750	0	0	1719	1415	0	1748
Satd. Flow (prot)	0.422	1739	1527	752	0.427	1750	0	0.974	1415	0	1737	1479
Fit Permitted	895	1739	1527	752	1750	0	0	1707	1415	0	1737	1479
Satd. Flow (perm)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Right Turn on Red	25	25	25	25	25	25	25	25	25	25	25	25
Satd. Flow (RTOR)	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
Link Speed (mph)	31	31	33	33	31	31	8	12	12	12	8	8
Travel Time (s)	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Confl. Pkts. (#/hr)	6%	2%	0%	0%	1%	5%	0%	6%	0%	3%	4%	4%
Peak Hour Factor	34	440	67	16	445	0	0	113	19	0	85	49
Heavy Vehicles (%)	Perm	NA	Perm	NA	Perm	NA	Split	NA	Split	NA	Prot	NA
Shared Lane Traffic (%)	2	2	2	2	2	2	2	2	2	2	2	2
Lane Group Flow (vph)	5310	5310	5310	5310	5310	2410	2410	2410	2310	2310	2310	2310
Turn Type	5.8	5.8	5.8	5.8	5.8	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Permitted Phases	27.4	27.4	27.4	27.4	27.4	9.8	9.8	8.8	8.8	8.8	8.8	8.8
Total Spk (s)	0.51	0.51	0.51	0.51	0.51	0.18	0.18	0.16	0.16	0.16	0.16	0.16
Total Lost Time (s)	0.10	0.50	0.08	0.04	0.50	0.36	0.06	0.30	0.30	0.30	0.30	0.30
Act Effect Green (s)	13.0	16.4	3.1	12.3	16.2	26.9	0.4	27.3	3.6	27.3	3.6	3.6
Actualized g/c Ratio	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
v/c Ratio	13.0	16.4	3.1	12.3	16.3	26.9	0.4	27.3	3.6	27.3	3.6	3.6
Control Delay	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	13.0	16.4	3.1	12.3	16.3	26.9	0.4	27.3	3.6	27.3	3.6	3.6
Total Delay	LOS	B	B	A	B	B	C	C	A	C	A	A
Approach Delay	14.5	14.5	14.5	14.5	14.5	23.1	23.1	23.1	23.1	23.1	23.1	23.1
Approach LOS	B	B	B	B	B	C	C	C	A	C	A	A
Queue Length 50th (ft)	7	113	0	3	113	32	0	24	0	24	0	0
Queue Length 95th (ft)	27	240	17	15	241	94	0	76	0	76	0	12
Internal Link Dist (ft)	192	192	192	192	192	174	174	174	174	174	174	174
Turn Bay Length (ft)	100	100	100	100	100	667	601	642	598	642	598	598
Base Capacity (vph)	692	1462	1312	640	1491	667	601	642	598	642	598	598
Station Cap Reductn	0	181	0	0	184	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.34	0.05	0.03	0.34	0.17	0.03	0.13	0.08	0.13	0.08	0.08
Intersection Summary	Other											
Area Type:	Other											
Cycle Length:	100											

Lanes, Volumes, Timings
 3: Belle Ave & Detroit Ave
 One Lakewood Place
 2023 Build - SAT Peak Hour



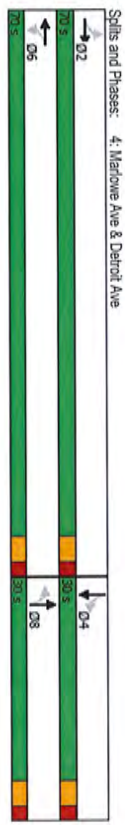
Lanes, Volumes, Timings
 4: Marlowe Ave & Detroit Ave
 One Lakewood Place
 2023 Build - SAT Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	18	402	13	55	373	20	11	59	48	16	74	33
Traffic Volume (vph)	18	402	13	55	373	20	11	59	48	16	74	33
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	10	11	11	10	12	12	11	11	11	11	11	11
Lane Width (ft)	2%	2%	0	60	0	0	0	0	0	0	0	0
Grade (%)	100	1	0	1	0	0	0	0	0	0	0	0
Storage Length (ft)	1	25	0	25	1881	0	0	1705	0	0	1677	0
Taper Length (ft)	25	1568	1772	0	1585	1881	0	0	0	0	1577	0
Satd. Flow (prot)	0.506	0.484	0	0.484	0	0	0	0.952	0	0	0.934	0
Flt. Permitted	880	1772	0	845	1881	0	0	1630	0	0	1588	0
Satd. Flow (perm)	No	No	No	No	No	No	No	No	No	No	No	No
Right Turn on Red												
Satd. Flow (RTOR)	25	278	7.6	25	212	3.8	25	274	7.5	25	327	8.9
Link Speed (mph)	22	40	40	22	40	22	6	24	24	24	24	6
Link Distance (ft)	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Travel Time (s)	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%
Confl. Pkts. (#/hr)	20	451	0	60	427	0	0	128	0	0	133	0
Peak Hour Factor	Perm	NA	Perm	NA	NA	Perm	NA	NA	Perm	NA	NA	Perm
Heavy Vehicles (%)	2	2	6	8	8	8	8	8	8	8	8	8
Shared Lane Traffic (%)	70.0	70.0	70.0	70.0	70.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Lane Group Flow (vph)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Turn Type	20.0	20.0	20.0	20.0	20.0	0.57	0.57	0.24	0.24	0.24	0.24	0.24
Permitted Phases	0.57	0.57	0.57	0.57	0.57	0.12	0.12	0.32	0.32	0.32	0.32	0.32
Actuated g/c Ratio	0.04	0.45	0.12	0.40	0.40	6.5	7.8	14.5	14.5	14.5	14.9	14.9
Control Delay	5.7	8.4	0.0	8.4	7.8	0.0	0.0	14.5	14.5	14.5	14.9	14.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.7	8.4	5.7	8.4	7.8	5.7	7.8	14.5	14.5	14.9	14.9	14.9
LOS	A	A	A	A	A	A	A	B	B	B	B	B
Approach Delay	8.3	8.3	7.6	7.6	7.6	14.5	14.5	14.9	14.9	14.9	14.9	14.9
Approach LOS	A	A	A	A	A	B	B	B	B	B	B	B
Queue Length 50th (ft)	2	53	6	48	19	19	19	19	19	19	19	19
Queue Length 95th (ft)	9	125	22	113	64	64	64	64	64	64	64	64
Internal Link Dist (ft)	198	198	132	132	194	194	194	194	194	194	194	194
Turn Bay Length (ft)	100	1772	60	60	1881	1188	1188	1188	1188	1188	1188	1188
Base Capacity (vph)	880	1772	845	845	1881	1188	1188	1188	1188	1188	1188	1188
Station Cap. Reductn	0	96	0	0	0	0	0	0	0	0	0	0
Storage Cap. Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.27	0.07	0.07	0.23	0.11	0.11	0.11	0.11	0.11	0.11	0.11
Intersection Summary/	Other											
Area Type:	Other											
Cycle Length:	100											

Lanes, Volumes, Timings
4: Marlowe Ave & Detroit Ave

One Lakewood Place
2023 Build - SAT Peak Hour

Actuated Cycle Length: 35.2
Control Type: Semi-Act/Uncontrol
Maximum v/c Ratio: 0.45
Intersection Signal Delay: 9.4
Intersection LOS: A
Intersection Capacity Utilization: 49.1%
ICU Level of Service: A
Analysis Period (min): 15



HCM 2010 TWSC
5: Lincoln Ave & Detroit Ave

One Lakewood Place
2023 Build - SAT Peak Hour

Intersection	Int Delay, s/veh	1.2	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SEB
Lane Configurations		3	443	19	32	424	5	15	0	18	2	3	6	
Traffic Vol, veh/h		3	443	19	32	424	5	15	0	18	2	3	6	
Future Vol, veh/h		27	0	33	33	0	27	8	0	3	3	0	8	
Conflicting Peds. #/hr		Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	
Sign Control		None	None	None	None	None	None	None	None	None	None	None	None	
RT Channelized		80	-	0	-	0	-	0	-	0	-	0	-	
Storage Length		0	-	0	-	0	-	0	-	0	-	0	-	
Veh in Median Storage, #		0	-	0	-	0	-	0	-	0	-	0	-	
Grade, %		-	0	-	0	-	0	-	0	-	0	-	0	
Peak Hour Factor		91	91	91	91	91	91	91	91	91	91	91	91	
Heavy Vehicles, %		0	1	0	0	1	0	0	0	0	0	0	0	
Mvmt Flow		3	487	21	35	455	5	16	0	20	2	3	7	

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	498	0	541	0
Stage 1	-	-	537	537
Stage 2	-	-	552	558
Critical Hdwy	4.1	-	6.7	6.1
Critical Hdwy Stg 1	-	-	5.7	5.1
Critical Hdwy Stg 2	-	-	5.7	5.1
Follow-up Hdwy	2.2	-	3.5	4
Pd Cap-1 Maneuver	1076	-	220	240
Stage 1	-	-	584	558
Stage 2	-	-	555	543
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1053	-	201	222
Mov Cap-2 Maneuver	-	-	550	545
Stage 1	-	-	520	514
Stage 2	-	-	520	514

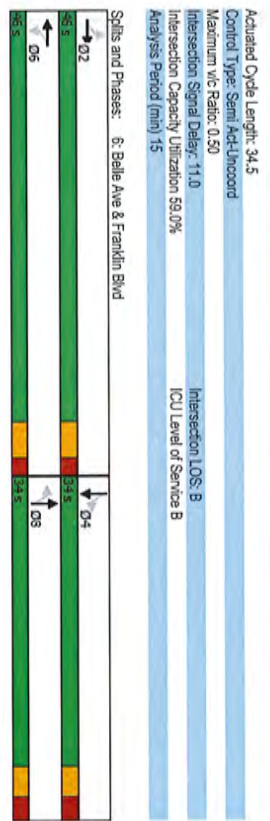
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.6	18.2	22.4
HCM LOS	C	C	C	C

Lanes, Volumes, Timings
 6: Belle Ave & Franklin Blvd
 One Lakewood Place
 2023 Build - SAT Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Traffic Volume (vph)	52	270	12	11	325	6	7	113	12	46	111	55
Future Volume (vph)	52	270	12	11	325	6	7	113	12	46	111	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	10	10	13	10	10	14	14	14	14	14	14
Grade (%)	0%	0%	0%	0%	0%	0%	-2%	0%	0%	0%	0%	0%
Storage Length (ft)	0	0	0	140	0	0	0	0	0	0	0	0
Storage Lanes	1	1	0	1	0	0	0	0	0	0	0	0
Traut Length (ft)	25	1744	0	25	1767	0	25	1959	0	0	1872	0
Sat'd Flow (vph)	0.354	1744	0	0.380	1767	0	0.374	1913	0	0	1890	0
Fit Permitted	1065	1744	0	1139	1767	0	1913	0	0	1690	0	0
Right Turn on Red	4	2	2	2	2	2	2	2	2	2	2	2
Sat'd Flow (RTOR)	35	454	0	285	454	0	380	454	0	0	516	0
Link Speed (mph)	454	454	0	454	454	0	454	454	0	0	454	0
Link Distance (ft)	8.8	8.8	0	5.6	5.6	0	10.6	10.6	0	0	14.1	0
Travel Time (s)	5	5	0	5	5	0	5	5	0	0	5	0
Cont. Peds. (ft/min)	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Peak Hour Factor	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)	54	294	0	11	345	0	0	138	0	0	221	0
Lane Group Flow (vph)	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Turn Type	2	2	2	2	2	2	2	2	2	2	2	2
Protected Phases	2	2	2	2	2	2	2	2	2	2	2	2
Permitted Phases	46.0	46.0	46.0	46.0	46.0	46.0	34.0	34.0	46.0	34.0	34.0	46.0
Total Split (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Total Lost Time (s)	13.6	13.6	13.6	13.6	13.6	13.6	9.7	9.7	13.6	9.7	9.7	13.6
Act Effct Green (s)	0.39	0.39	0.39	0.39	0.39	0.39	0.28	0.28	0.39	0.28	0.28	0.39
Actual g/c Ratio	0.13	0.43	0.02	0.50	0.50	0.02	0.26	0.26	0.43	0.26	0.26	0.43
v/c Ratio	8.2	10.2	7.3	11.2	11.2	7.3	10.9	10.9	12.7	10.9	12.7	10.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	8.2	10.2	7.3	11.2	11.2	7.3	10.9	10.9	12.7	10.9	12.7	10.9
Total Delay	A	B	A	A	B	A	B	B	A	B	B	A
LOS	A	B	A	A	B	A	B	B	A	B	B	A
Approach Delay	9.9	9.9	11.1	11.1	11.1	10.9	10.9	12.7	10.9	12.7	10.9	10.9
Approach LOS	A	B	B	B	B	B	B	B	B	B	B	B
Queue Length 50th (ft)	6	35	1	42	16	26	16	26	35	16	26	35
Queue Length 95th (ft)	23	91	8	108	54	81	54	81	91	54	81	91
Internal Link Dist (ft)	374	374	205	205	205	310	310	310	205	310	205	205
Turn Bay Length (ft)	140	140	140	140	140	140	140	140	140	140	140	140
Turn Bay Length (ft)	1067	1716	1120	1120	1737	1616	1616	1422	1120	1737	1616	1422
Base Capacity (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Station Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.17	0.01	0.20	0.20	0.09	0.09	0.16	0.17	0.09	0.16	0.16

Area Type: Other
 Cycle Length: 80
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Lanes, Volumes, Timings
 6: Belle Ave & Franklin Blvd
 One Lakewood Place
 2023 Build - SAT Peak Hour



Langan 04/16/2019 Synchro 10 Report Page 10

HCM 2010 TWSC
7. Mardowe Ave & Franklin Blvd

One Lakewood Place
2023 Build - SAT Peak Hour

Intersection												
In Delay, s/veh												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	14	309	9	12	312	49	11	30	8	20	34	22
Traffic Vol, veh/h	14	309	9	12	312	49	11	30	8	20	34	22
Future Vol, veh/h	3	0	1	0	3	0	0	0	1	1	0	0
Conflicting Peds. #/hr	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Sign Control	-	-	None	-	-	None	-	-	None	-	-	None
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	140	-	0	-	0	-	-	-	-	-	-	-
Veh in Median Storage #	0	-	0	-	0	-	-	-	0	-	-	0
Grade, %	-	-1	-	-	1	-	-	-	0	-	-	-1
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	1	0	0	0	2	0	1	0	1	1	0
Mvmt Flow	15	329	10	13	332	52	12	32	9	21	36	23

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	387	0	0	340
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hwy	4.1	-	-	4.1
Critical Hwy Sig 1	-	-	-	-
Critical Hwy Sig 2	-	-	-	-
Follow-up Hdwy	2.2	-	-	2.2
Pot Cap-1 Maneuver	1183	-	-	1230
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1179	-	-	1229
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.3	17.6	16.9
HCM LOS	C	C	C	C

Minor Lane/Major Mvmt	NBL	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBT	SBR
Capacity (veh/h)	338	1179	-	-	1229	-	-	387	387	370
HCM Lane V/C Ratio	0.154	0.013	-	-	0.01	-	-	0.211	-	-
HCM Control Delay (s)	17.6	8.1	-	-	8	-	-	16.9	-	-
HCM Lane LOS	C	A	-	-	A	-	-	C	-	-
HCM 95th %ile Q(veh)	0.5	0	-	-	0	-	-	0.8	-	-

HCM 2010 TWSC
8. Belle Ave & Northern Garage Entrance

One Lakewood Place
2023 Build - SAT Peak Hour

Intersection												
In Delay, s/veh												
Movement	WBL	WBR	NBT	NBR	SBL	SBT						
Lane Configurations	75	55	12	83	54	14						
Traffic Vol, veh/h	75	55	12	83	54	14						
Future Vol, veh/h	0	0	0	0	0	0						
Conflicting Peds. #/hr	0	0	0	0	0	0						
Sign Control	Stop	Stop	Free	Free	Free	Free						
RT Channelized	-	None	-	None	-	None						
Storage Length	0	-	-	-	-	-						
Veh in Median Storage #	0	-	0	-	-	-						
Grade, %	0	-	1	-	-	-1						
Peak Hour Factor	92	92	92	92	92	92						
Heavy Vehicles, %	2	2	2	2	2	2						
Mvmt Flow	82	60	13	90	59	15						

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	191	58	0
Stage 1	58	-	-
Stage 2	133	-	-
Critical Hwy	6.42	6.22	-
Critical Hwy Sig 1	5.42	-	-
Critical Hwy Sig 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	798	1008	-
Stage 1	895	-	-
Stage 2	693	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	766	1008	-
Mov Cap-2 Maneuver	766	-	-
Stage 1	926	-	-
Stage 2	893	-	-
Approach	WB	NB	SB
HCM Control Delay, s	10.1	0	6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	SBL	SBT
Capacity (veh/h)	-	-	833	1489
HCM Lane V/C Ratio	-	-	0.166	0.039
HCM Control Delay (s)	-	-	10.1	7.5
HCM Lane LOS	-	-	B	A
HCM 95th %ile Q(veh)	-	-	0.6	0.1

Intersection		2.3							
Int Delay, s/veh									
Movement	WBL	WBR	NBT	NBR	SBL	SBT			
Lane Configurations	W								
Traffic Vol, veh/h	37	12	83	42	14	75			
Future Vol, veh/h	37	12	83	42	14	75			
Conflicting Peds. #/hr	0	0	0	0	0	0			
Sign Control	Stop	Stop	Free	Free	Free	Free			
RT Channelized	-	None	-	None	-	None			
Storage Length	0	-	-	-	-	-			
Veh in Median Storage, #	0	-	0	-	-	0			
Grade, %	0	-	-2	92	92	92			
Peak Hour Factor	92	92	92	92	92	92			
Heavy Vehicles, %	2	2	2	2	2	2			
Mvmt Flow	40	13	90	46	15	82			

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	225	113	0
Stage 1	112	-	-
Stage 2	112	-	-
Critical Hwy	6.42	6.22	4.12
Critical Hwy Sig 1	5.42	-	-
Critical Hwy Sig 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	763	940	1448
Stage 1	912	-	-
Stage 2	913	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	755	940	1448
Mov Cap-2 Maneuver	755	-	-
Stage 1	902	-	-
Stage 2	913	-	-
Approach	WB	NB	SB
HCM Control Delay, s	9.9	0	1.2
HCM LOS	A		

Minor Lane/Minor Mvmt	NBT	NBR/BLRT	SBL	SBT
Capacity (veh/h)	-	793	1448	-
HCM Lane V/C Ratio	-	0.067	0.011	-
HCM Control Delay (s)	-	9.9	7.5	0
HCM Lane LOS	-	A	A	A
HCM 95th %ile Q(veh)	-	0.2	0	-

Intersection		5.3							
Int Delay, s/veh									
Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations	W								
Traffic Vol, veh/h	61	37	42	12	14	74			
Future Vol, veh/h	61	37	42	12	14	74			
Conflicting Peds. #/hr	0	0	0	0	0	0			
Sign Control	Stop	Stop	Free	Free	Free	Free			
RT Channelized	-	None	-	None	-	None			
Storage Length	0	-	-	-	-	-			
Veh in Median Storage, #	0	-	0	-	0	-			
Grade, %	0	-	-	1	-1	-			
Peak Hour Factor	92	92	92	92	92	92			
Heavy Vehicles, %	2	2	2	2	2	2			
Mvmt Flow	66	40	46	13	15	80			

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	160	55	95
Stage 1	55	-	-
Stage 2	105	-	-
Critical Hwy	6.42	6.22	4.12
Critical Hwy Sig 1	5.42	-	-
Critical Hwy Sig 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	831	1012	1499
Stage 1	968	-	-
Stage 2	919	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	805	1012	1499
Mov Cap-2 Maneuver	805	-	-
Stage 1	938	-	-
Stage 2	919	-	-
Approach	EB	NB	SB
HCM Control Delay, s	9.7	5.8	0
HCM LOS	A		

Minor Lane/Minor Mvmt	NBL	NBT/BLRT	SBT	SBR
Capacity (veh/h)	1499	-	872	-
HCM Lane V/C Ratio	0.03	-	0.122	-
HCM Control Delay (s)	7.5	0	9.7	-
HCM Lane LOS	A	A	A	-
HCM 95th %ile Q(veh)	0.1	-	0.4	-

Intersection	24							
Int Delay, s/veh	EBL	EER	NBL	NBT	SBT	SBR		
Lane Configurations	12	12	14	42	37	14		
Traffic Vol, veh/h	12	12	14	42	37	14		
Future Vol, veh/h	0	0	0	0	0	0		
Conflicting Peds, #/hr	0	0	0	0	0	0		
Sign Control	Stop	Stop	Free	Free	Free	Free		
RT Channelized	-	None	-	None	-	None		
Storage Length	0	-	-	0	0	-		
Veh in Median Storage #	0	-	-	0	0	-		
Grade, %	0	-	-	1	-1	-		
Peak Hour Factor	92	92	92	92	92	92		
Heavy Vehicles, %	2	2	2	2	2	2		
Mvmt Flow	13	13	15	46	40	15		
Major/Minor	Minor2	Major1	Major2					
Conflicting Flow All	124	48	55	0	-	0		
Stage 1	48	-	-	-	-	-		
Stage 2	76	-	-	-	-	-		
Critical Hdwy	6.42	6.22	4.12	-	-	-		
Critical Hdwy Sig 1	5.42	-	-	-	-	-		
Critical Hdwy Sig 2	5.42	-	-	-	-	-		
Followup Hdwy	3.518	3.318	2.218	-	-	-		
Platoon Blocked, %	871	1021	1550	-	-	-		
Stage 1	974	-	-	-	-	-		
Stage 2	947	-	-	-	-	-		
Major Cap-1 Maneuver	862	1021	1550	-	-	-		
Minor Cap-2 Maneuver	862	-	-	-	-	-		
Stage 1	964	-	-	-	-	-		
Stage 2	947	-	-	-	-	-		
Approach	EB	NB	SB					
HCM Control Delay, s	9	1.8	0					
HCM LOS	A							
Minor Lane/Minor Mvmt	NBL	NBT	EBLN1	SBT	SBR			
Capacity (veh/h)	1550	-	935	-	-			
HCM Lane V/C Ratio	0.01	-	0.028	-	-			
HCM Control Delay (s)	7.3	0	9	-	-			
HCM Lane LOS	A	A	A	-	-			
HCM 95th %ile Q(veh)	0	-	0.1	-	-			

APPENDIX - J

Signal Warrant and 4-Way Stop Warrant Analyses

INTERSECTION: (7) Franklin Boulevard & Marlowe Avenue
MAJOR STREET: Franklin Boulevard
MINOR STREET: Marlowe Avenue
DATE: 4/16/2019
ANALYST: MAK

NO. OF LANES: 1
NO. OF LANES: 1
ANALYST: MAK

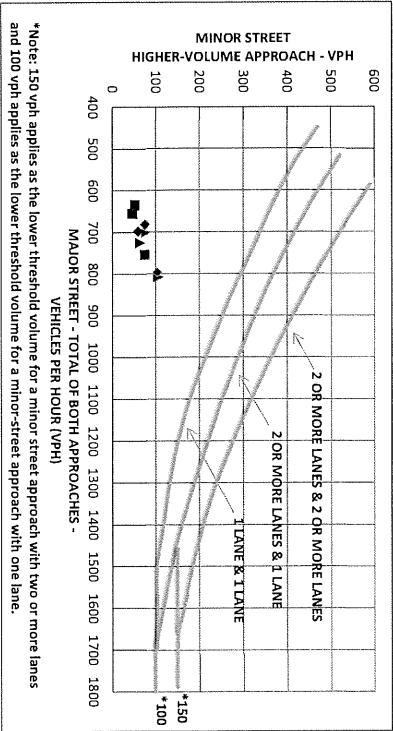


Figure 4C-3. Warrant 3, Peak Hour

Symbol	Scenario	Time Period	Major St. (VPH)	Minor St. (VPH)	Warrant Satisfied?
■	2019 Existing AM	7:30 - 8:30 AM	655	47	NO
■	2019 Existing PM	5:00 - 6:00 PM	754	75	NO
■	2019 Existing SAT	12:15 - 1:15 PM	634	52	NO
▲	2023 No-Build AM	7:30 - 8:30 AM	725	64	NO
▲	2023 No-Build PM	5:00 - 6:00 PM	808	106	NO
▲	2023 No-Build SAT	12:15 - 1:15 PM	701	78	NO
◆	2023 Build AM	7:30 - 8:30 AM	698	60	NO
◆	2023 Build PM	5:00 - 6:00 PM	796	104	NO
◆	2023 Build SAT	12:15 - 1:15 PM	881	76	NO

INTERSECTION: (7) Franklin Boulevard & Marlowe Avenue
MAJOR STREET: Franklin Boulevard
MINOR STREET: Marlowe Avenue
DATE: 4/16/2019
ANALYST: MAK

Time	2019 Existing - 4-Way Stop Warrant				Warrant Satisfied?
	Eastbound	Westbound	Northbound	Southbound	
7:00 AM	358	253	611	70	NO
8:00 AM	214	234	448	37	NO
4:00 PM	272	384	656	55	NO
5:00 PM	342	412	754	51	NO
Requirement			300+	79	200+

NOTES:

- The 4-way stop warrant is considered satisfied when the following conditions are met:
 - The total vehicular volume entering the intersection from the major street approaches averages at least 300 vehicles per hour for 8 hours of an average day.
 - The total combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches averages at least 200 vehicles per hour for the same 8 hours.
 - The 70% reduced warrant volume conditions based on the 85th-percentile speed exceeding 40 mph along the major street will likely not be applicable due to the upstream and downstream traffic signals along Franklin Boulevard.

LANGAN

Project: One Lakewood Place
 Date: 4/16/2019
 Calculated by: Langan

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 T: 216.328.3300 F: 216.328.3301

INTERSECTION: (7) Franklin Boulevard & Marlowe Avenue
 MAJOR STREET: Franklin Boulevard
 MINOR STREET: Marlowe Avenue
 DATE: 4/16/2019
 ANALYST: MAK

Time	2023 No Build - 4-Way Stop Warrant				Warrant Satisfied?		
	Franklin Boulevard Eastbound	Franklin Boulevard Westbound	Marlowe Avenue Northbound	Marlowe Avenue Southbound			
7:00 AM	374	304	678	87	72	159	NO
8:00 AM	226	282	508	51	50	101	NO
4:00 PM	302	403	705	61	98	159	NO
5:00 PM	375	433	808	57	110	167	NO
Requirement	300+				200+		NO

Time	2023 Regional Growth				Total	
	Franklin Boulevard Eastbound	Franklin Boulevard Westbound	Marlowe Avenue Northbound	Marlowe Avenue Southbound		
7:00 AM	3	2	5	1	0	1
8:00 AM	2	2	4	0	0	0
4:00 PM	2	3	5	0	1	1
5:00 PM	3	3	6	0	1	1

Time	2023 No Build - Former Hospital Trips				Total	
	Franklin Boulevard Eastbound	Franklin Boulevard Westbound	Marlowe Avenue Northbound	Marlowe Avenue Southbound		
7:00 AM	13	49	62	16	13	29
8:00 AM	10	46	56	14	11	25
4:00 PM	28	16	44	6	27	33
5:00 PM	30	18	48	6	30	36

NOTES:
 The 4-way stop warrant is considered satisfied when the following conditions are met:
 - The total vehicular volume entering the intersection from the major street approaches averages at least 300 vehicles per hour for 8 hours of an average day.
 - The total combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches averages at least 200 vehicles per hour for the same 8 hours.
 The 70% reduced warrant volume conditions based on the 85th-percentile speed exceeding 40 mph along the major street will likely not be applicable due to the upstream and downstream traffic signals along Franklin Boulevard.

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Project: One Lakewood Place
 Date: 4/16/2019
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INTERSECTION: (7) Franklin Boulevard & Marlowe Avenue
 MAJOR STREET: Franklin Boulevard
 MINOR STREET: Marlowe Avenue
 DATE: 4/16/2019
 ANALYST: MAK

Time	2023 Build - 4-Way Stop Warrant				Warrant Satisfied?		
	Franklin Boulevard Eastbound	Franklin Boulevard Westbound	Marlowe Avenue Northbound	Marlowe Avenue Southbound			
7:00 AM	377	292	669	83	76	159	NO
8:00 AM	229	270	499	48	53	101	NO
4:00 PM	300	419	719	66	96	162	NO
5:00 PM	373	451	824	63	108	171	NO
Requirement	300+				200+		NO

Time	2023 Regional Growth				Total	
	Franklin Boulevard Eastbound	Franklin Boulevard Westbound	Marlowe Avenue Northbound	Marlowe Avenue Southbound		
7:00 AM	3	2	5	1	0	1
8:00 AM	2	2	4	0	0	0
4:00 PM	2	3	5	0	1	1
5:00 PM	3	3	6	0	1	1

Time	2023 Build - Proposed Site Trips				Total	
	Franklin Boulevard Eastbound	Franklin Boulevard Westbound	Marlowe Avenue Northbound	Marlowe Avenue Southbound		
7:00 AM	16	37	53	12	17	29
8:00 AM	13	34	47	11	14	25
4:00 PM	26	32	58	11	25	36
5:00 PM	28	36	64	12	28	40

NOTES:
 The 4-way stop warrant is considered satisfied when the following conditions are met:
 - The total vehicular volume entering the intersection from the major street approaches averages at least 300 vehicles per hour for 8 hours of an average day.
 - The total combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches averages at least 200 vehicles per hour for the same 8 hours.
 The 70% reduced warrant volume conditions based on the 85th-percentile speed exceeding 40 mph along the major street will likely not be applicable due to the upstream and downstream traffic signals along Franklin Boulevard.

April 24, 2019

Katelyn Milius, P.E.
City Planner
Department of Planning & Development
City of Lakewood
12650 Detroit Avenue
Lakewood, OH 44107

**Re: Response to City TIS Comments
One Lakewood Place
City of Lakewood, OH**

Dear Katelyn,

Langan Engineering & Environmental Services (Langan) is pleased to provide the following responses (listed in *italics*) to the City Planning, Planning Commission meeting, and the City's Traffic Consultant comments (listed in **bold**) dated April 1st, and 4th, 2019 respectively.

City Planning

Response to Comment Letter

APPENDIX – K

1. **The Cleveland Clinic Hospital no longer exists, clarify we are talking about the building. Best to change existing building to "former".**

We will clarify the wording within the report so there is no confusion between existing conditions (without the Cleveland Clinic Hospital in use at that site) and the "former" conditions (when the Cleveland Clinic Hospital was in use at that site).

2. **Define the "No Build" and "Build" conditions up front for clarity.**

The "No Build" condition typically refers to if the proposed development does not occur. In this case, the "No Build" scenario included the former Cleveland Clinic Hospital utilizing the site. The "Build" condition refers to if the proposed development is built on that site. We will clarify the wording within the report to limit any confusion between these scenarios.

3. **Are the trip distribution percentages based only the existing travel patterns within the study area?**

Not exclusively, the trip distribution percentages are based on existing travel patterns within the study area, locations of existing and proposed access points, and engineering judgement of the most logical routes to expedite travel times.

- 4. Due to the parking garage that served the hospital located west of Belle Avenue, a greater percentage of hospital traffic should be shown on Belle Avenue than Marlowe Avenue.**

Based on discussions with City Planning, we have revised the trip distribution percentages for the hospital traffic to account for this higher usage on Belle Avenue.

Planning Commission Meeting

- 5. Please evaluate a Signal Warrant at Marlowe & Franklin**

Peak Hour Signal Warrants were evaluated at Marlowe & Franklin as requested. Neither the Existing, No Build (with former Hospital traffic), or Build (with proposed development) condition satisfied the peak hour warrants.

- 6. Please evaluate a Four-Way Stop Warrant at Marlowe & Franklin**

The Four-Way Stop Warrants were evaluated at Marlowe & Franklin as requested. Neither the Existing, No Build (with former Hospital traffic), or Build (with proposed development) condition satisfied the four-way stop warrants.

- 7. Shouldn't the school peak times around 3 PM be evaluated?**

The school peak time around 3PM occurs prior to the normal peak hours of 4PM – 6PM when the most traffic generated by the proposed development would occur. As a result, traffic generated by the proposed development would be significantly less during the school peak and therefore not applicable to evaluate for the purpose of understanding the impacts of the proposed development.

On Call Traffic Consultant

- 8. The proposed development has an "Opening Day" of 2023. Will none of the amenities be available prior to entire build-out? There will be no phased development?**

Portions of the development will be operational prior to 2023. We evaluated the full build condition first to identify if any offsite improvements would be required. If offsite improvements were necessary, then we would have determined at which "phase" they would be needed. However, since offsite improvements were not required for the full build, no further phase analyses were necessary.

- 9. According to the data in the report, the consultant generated the "existing" hospital traffic based on the number of beds that the original hospital contained. Did the consultant check generated traffic based on the square footage of the original hospital or the number of employees?**

We did evaluate the hospital trip generation based on SF, employees, and number of beds. Upon review, we determined that the number of beds was the most accurate variable with reasonable results.

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- 10. The consultant shows a 20% distribution of traffic to/from the south of the development on Marlowe (stop-controlled) towards Franklin (no stop signs). The consultant shows a 15% distribution of traffic to/from the north of the development on Marlowe towards Detroit (signalized). How were these distributions estimated? What is the percentage of traffic distribution for Belle Avenue northbound/southbound? Drawing 6A is the reference sheet. This appears to be counterintuitive.**

The trip distribution percentages used for the Hospital trips are shown on Figure 4 while the trip distribution percentages used for the proposed primary development trips are shown on Figure 6A. They are slightly different from each other based on the change in access locations / functionality of the site. Additionally, the trip distribution percentages for the Hospital have been revised based on feedback from the City of Lakewood and reasonable rational on the original traffic circulation patterns.

- 11. Why were signal warrants and a crash analysis not performed for the intersection of Marlowe/Franklin?**

We have since been requested to perform signal warrants at the intersection of Marlowe Avenue & Franklin Boulevard and will include those results in the revised TIS.

- 12. The consultant includes internal capture rates for the residential portion of the planned development in the Appendices. There seems to be quite a difference among the AM Build Weekday Peak (11%), the PM Build Weekday Peak (33%), and the Saturday Build Peak (33%). Are these percentages based on the peak hours of the generator? Are these percentages based upon the hours of operation of the amenities? Please clarify.**

Internal capture rates are based on adjacent street PM peak hour percentages provided in Volume 1 of the ITE Trip generation manual and adjusted for the AM and Saturday mid-day peak hours.

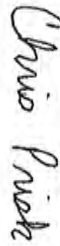
- 13. The consultant did not provide "Design Year" (Future No-Build and Build) analyses for the development. These should be included in the Traffic Impact Study.**

The scope of the TIS that was discussed and approved with the City of Lakewood did not include "Design Year" analyses. Additionally, since there is no identified significant impacts from the Build condition as compared to the No Build condition, these design year analyses would not provide any valuable information.

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If you should have any comments or questions please contact me via phone (724) 514-5154 or email cporsk@langan.com.

Sincerely,
Langan Engineering and Environmental Services, Inc.



Christopher A. Pisk, P.E., PTOE
Senior Project Manager

cc: George Papandreas, Carnegie Management & Development Corporation
Ruston Khoury III, Carnegie Management & Development Corporation
William Boron, Langan

Transportation Impact Study for One Lakewood Place



Prepared For:
Carnegie Management and Development Corporation
27500 Detroit Road
Suite 300
Westlake, Ohio 44145

Prepared By:
Langan Engineering and Environmental Services, Inc.
6000 Lombardo Center, Suite 210
Cleveland, OH 44131

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April 2019
400043101

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Transportation Impact Study for One Lakewood Place

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1 EXECUTIVE SUMMARY

Overview of Development

Langan has prepared the following Transportation Impact Study in support of the proposed One Lakewood Place development. The project site is located at 14519 Detroit Avenue on the southeast corner of Detroit Avenue and Belle Avenue in Cuyahoga County, Lakewood, Ohio. The former 263 bed Cleveland Clinic Lakewood Hospital and associated parking will be demolished to accommodate the proposed development. The project will include approximately 203 residential units, spread out among apartments, condos, and walk up units, as well as approximately 117,200 SF of office buildings, 84,700 SF of retail buildings, a parking garage with 811 spaces, 51 on-street parking spaces, 48 private garage spaces for the walk up units, and a winter garden.

The proposed development is anticipated to be completed in 2023. Access to the site will be provided by four (4) unsignalized driveways, two (2) of which will be to/from Belle Avenue and the other two (2) will be to/from Marlowe Avenue.

Site Trip Generation and Distribution

The overall trip generation for the proposed site was estimated using trip generation data contained in the Trip Generation Manual, 10th edition, published by the Institute of Transportation Engineers (ITE). A conservative 5% total modal split reduction was applied to the site generated trips for transit (2%), bicycle / other (1%), and pedestrian (2%) uses. These reductions were based on general observations of the surrounding area and transportation network.

The resulting on site trip generation calculations, which subtracts the former trip generation from the proposed site trip generation, indicates the total site would generate -39 additional AM Peak Hour trips (-85 In, 46 Out), 97 additional PM Peak Hour trips (126 In, -29 Out), and 33 additional SAT Peak Hour trips (42 In, -9 Out). The negative trip generation values indicate that the proposed development would actually generate less traffic than the former conditions when the Hospital was in use, and therefore improve traffic conditions near the site by comparison.

Langan based the trip distribution and assignment of the proposed site trips on the existing travel patterns within the study area network, locations of existing and proposed access points, and engineering judgement of the most logical routes to expedite travel times. We routed all the proposed site trips to/from the development using the four (4) access points that lead to the parking garage and private garage spaces: two (2) driveways to/from Belle Avenue and two (2) driveways to/from Marlowe Avenue. The two (2) southern-most proposed site driveways on each street provide access to the garage as well as the private garage spaces for the walk up units. So only residents and office workers, which would be credential users were assigned to these driveways. The two (2) northern-most proposed site driveways would provide garage access for credential users and the general public. We adjusted the trip distribution in a manner which reflects the nature of the various access points for this development.

Conclusions

The results of this study provide a broad overview of the transportation impacts that are associated with the development of One Lakewood Place. The proposed development can be accommodated at this site with the following access points and associated traffic control signage:

- Construct two (2) full-access unsignalized driveways to/from Belle Avenue with exiting STOP sign control.
- Construct two (2) full-access unsignalized driveways to/from Marlowe Avenue with exiting STOP sign control.

The capacity analyses indicate that under the Build conditions (with proposed development), the intersections within the study area will continue to operate at an overall LOS C or better.

In conclusion, the proposed One Lakewood Place development will have little to no observable impact on the surrounding study area roads & intersections.

II. INTRODUCTION / PROJECT SUMMARY

Purpose of Report

The purpose of this document is to summarize the findings of the Transportation Impact Study conducted in support of the proposed One Lakewood Place site. As shown in Figure 1, the proposed residential, retail, office, and parking garage will be developed on a 5.7 acre site located at 14519 Detroit Avenue on the southeast corner of Detroit Avenue and Belle Avenue in Cuyahoga County, Lakewood, Ohio. The former 263 bed Cleveland Clinic Lakewood Hospital and associated parking will be demolished to accommodate the proposed development. The project will include approximately 203 residential units, spread out among apartments, condos, and walk up units, as well as approximately 117,200 SF of office buildings, 84,700 SF of retail buildings, a parking garage with 811 spaces, 51 on-street parking spaces, 48 private garage spaces for the walk up units, and a winter garden.

Access to the site will be provided by four (4) unsignalized driveways, two (2) of which will be off from Belle Avenue and the other two (2) will be off from Marlowe Avenue. The proposed site plan is shown in Figure 2.

This report examines if there are any impacts from the proposed on the surrounding intersections and roadways. Based on the results of the analyses, this report will provide recommended improvements, if necessary.

III. EXISTING STUDY AREA CONDITIONS

Study Area Roadways

Detroit Avenue is a three (3) / four (4) lane asphalt roadway with a general east-west orientation. The road provides one (1) consistent lane of travel in each direction with dedicated left turn lanes for both eastbound and westbound directions. Several sections of the eastbound roadway contain dedicated right turn lanes. Detroit Avenue has a posted speed limit of 25 mph near the site with on-street parking on both sides. Land use along this road is predominately commercial and retail. According to information obtained from the Ohio Department of Transportation's (ODOT) Transportation Information Mapping System (TIMS), Detroit Avenue is classified as a minor arterial.

Franklin Boulevard is a three (3) lane asphalt roadway with a general east-west orientation and provides one (1) lane of travel in each direction with a center shared left turn lane. Franklin Boulevard has a posted speed limit of 25 mph near the site with no on-street parking permitted on either side. Land use along this road is predominately residential. According to information obtained from the ODOT Transportation Information Mapping System (TIMS), Franklin Boulevard is classified as a minor arterial.

Warren Road is a two (2) lane asphalt roadway with a general north-south orientation and provides one (1) lane of travel in each direction. Warren Road has a posted speed limit of 25 mph near the site with no on-street parking permitted on either side. Land use along this road is predominately

commercial and retail. According to information obtained from the ODOT Transportation Information Mapping System (TIMS), Warren Road is classified as a minor arterial.

St Charles Avenue is a two (2) lane asphalt roadway with a general north-south orientation and provides one (1) lane of travel in each direction. St Charles Avenue has a posted speed limit of 25 mph near the site and permits on-street parking on both sides of the road in the northern portion of the road near Detroit Avenue, but does not permit on-street parking on either side of the street in the southern section of the road. Land use along this road is predominately commercial and residential. According to information obtained from the ODOT Transportation Information Mapping System (TIMS), St Charles Avenue is classified as a local road.

Belle Avenue is a two (2) lane asphalt roadway with a general north-south orientation and provides one (1) lane of travel in each direction. Belle Avenue has a posted speed limit of 25 mph near the site and permits on-street parking on one side of the road in the northern portion of the road near Detroit Avenue, but does not permit on-street parking on either side of the street in the southern section of the road. Land use along this road is predominately residential and medical. According to information obtained from the ODOT Transportation Information Mapping System (TIMS), Belle Avenue is classified as a local road.

Marlowe Avenue is a two (2) lane asphalt roadway with a general north-south orientation and provides one (1) lane of travel in each direction. Marlowe Avenue has a posted speed limit of 25 mph near the site and permits on-street parking on one side of the street. Land use along this road is predominately residential and medical. According to information obtained from the ODOT Transportation Information Mapping System (TIMS), Marlowe Avenue is classified as a local road.

Lincoln Avenue is a two (2) lane asphalt roadway with a general north-south orientation and provides one (1) lane of travel in each direction. Lincoln Avenue has a posted speed limit of 25 mph near the site and permits on-street parking on both sides of the road in the northern portion of the road near Detroit Avenue, but only permits on-street parking on one side of the street in the southern section of the road. Land use along this road is predominately commercial and residential. According to information obtained from the ODOT Transportation Information Mapping System (TIMS), Lincoln Avenue is classified as a local road.

Appendix A includes an illustration of the road classification in Lakewood, Ohio according to the ODOT Transportation Information Mapping System (TIMS).

Data Collection

For this traffic study, peak hour turning movement counts were conducted at the following intersections:

1. Detroit Avenue & Warren Road (signalized)
2. Detroit Avenue & St Charles Avenue (signalized)
3. Detroit Avenue & Belle Avenue (signalized)

4. Detroit Avenue & Marlowe Avenue (signalized)
5. Detroit Avenue & Lincoln Avenue (unsignalized)
6. Franklin Boulevard & Belle Avenue (signalized)
7. Franklin Boulevard & Marlowe Avenue (unsignalized)

These counts were collected on a typical weekday (Tuesday – Thursday) during the AM peak period (7:00 AM to 9:00 AM), PM peak period (4:00 PM to 6:00 PM), and Saturday (SAT) peak period (11:00 AM to 2:00 PM) and included pedestrian, bicycle, and heavy vehicle classification. The peak periods incorporate the AM, PM, and SAT peak hours of the roadway. All manual / video turning movement count summaries are included in **Appendix B**.

The AM, PM, and SAT peak hours (four consecutive 15-minute periods comprising the highest volume) determined from the turning movement counts were generally:

- AM Peak Hour – 7:30 AM to 8:30 AM
- PM Peak Hour – 5:00 PM to 6:00 PM
- SAT Peak Hour – 12:15 PM to 1:15 PM

The 2019 Existing Peak Hour Traffic Volumes are shown on **Figure 3** and represent the traffic network used to analyze existing conditions and develop future conditions.

We conducted a field reconnaissance of the study area to obtain existing intersection geometry, turn lane lengths, lane widths, approach grades, posted speed limits, and signal timings obtained from the City of Lakewood. The field inventory sketches, signal timings, and the intersection photo log are included in **Appendix C**.

IV. DEVELOPMENT DESCRIPTION

One Lakewood Place is proposed to be developed at 14519 Detroit Avenue on the southeast corner of Detroit Avenue and Belle Avenue in Cuyahoga County, Lakewood, Ohio. The former 283 bed Cleveland Clinic Lakewood Hospital and associated parking will be demolished to accommodate the proposed development. The project will include approximately 203 residential units, spread out among apartments, condos and walk up units, as well as approximately 117,200 SF of office buildings, 84,700 SF of retail buildings, a parking garage with 811 spaces, 51 on-street parking spaces, 48 private garage spaces for the walk up units, and a winter garden.

The One Lakewood Place development is anticipated to be completed in 2023; therefore, for purposes of this study, Langan analyzed the following design scenarios:

- 2019 Existing Conditions (Hospital not in use on Site)
- 2023 Opening Day Conditions without Development (2023 No Build – Assumes Hospital in use on Site)
- 2023 Opening Day Conditions with Development (2023 Build – Proposed Development on Site)

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The 2019 Existing conditions represent the site conditions when the counts were conducted in February. At that time, the hospital was not in use on the site so any trips associated with the former hospital at that location were not shown in the 2019 Existing conditions. The 2023 No Build conditions represent the site conditions if the hospital was still in use on the site and remained operational in 2023. The 2023 Build conditions represent the demolition of the hospital and the proposed development being fully operational on the site.

Proposed Site Access

Access to the site will be provided via four (4) unsignalized intersections that lead to/from the parking garage and private garage spaces: two (2) access points will be provided to/from Belle Avenue and two (2) access points will be provided to/from Marlowe Avenue. The two (2) southern-most site access points closest to Franklin Boulevard will provide access to the garage as well as the private garage spaces for the walk up units. So only residents and office workers, which would be credential users would utilize these driveways. The two (2) northern-most site access points closest to Detroit Avenue will allow public access for those visiting the plaza, retail stores, as well as provide access for credential users. The proposed site plan is shown in **Figure 2**.

Site Trip Generation

Langan estimated the overall trip generation for the proposed development using trip generation data contained in the Trip Generation Manual, 10th edition, published by the Institute of Transportation Engineers (ITE). A conservative 5% total modal split reduction was applied to the site generated trips for transit (2%), bicycle / other (1%), and pedestrian (2%) uses. These reductions were based on general observations of the surrounding area and transportation network.

Trip generation for the former Cleveland Clinic Lakewood Hospital was based on the total number of beds (253) within the facility to determine the amount of site traffic that would be present under the No Build condition, and later removed under the Build condition. After taking into consideration the mode split reduction, the calculations indicate the former hospital would generate 477 AM Peak Hour trips (341 In, 136 Out), 421 PM Peak Hour trips (117 In, 304 Out), and 493 SAT Peak Hour trips (235 In, 258 Out).

Trip generation for the proposed residential, retail, and office buildings was calculated to determine the amount of site traffic that would be present under the Build condition. The calculations indicate the proposed site would generate 438 AM Peak Hour trips (256 In, 182 Out), 518 PM Peak Hour trips (243 In, 275 Out), and 526 SAT Peak Hour trips (277 In, 249 Out). Mode split, internal capture, and pass-by reductions were also applied as necessary based on the land uses.

The resulting on site trip generation calculations, which subtracts the former trip generation from the proposed site trip generation, indicates the total site would generate -39 additional AM Peak Hour trips (-85 In, 46 Out), 97 additional PM Peak Hour trips (126 In, -29 Out), and 33 additional SAT Peak Hour trips (42 In, -9 Out). The negative trip generation values indicate that the proposed development would actually generate less traffic than the former conditions when the Hospital was

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in use, and therefore improve traffic conditions near the site by comparison. All trip generation calculations are shown in [Table 1](#).

Site Trip Distribution

We based the trip distribution and assignment of the proposed One Lakewood Place trips on the existing travel patterns within the study area network, locations of existing and proposed access points, and engineering judgement of the most logical routes to expedite travel times. We routed all the proposed site trips to/from the development using the four (4) access points that lead to the parking garage and private garage spaces: two (2) driveways to/from Belle Avenue and two (2) driveways to/from Marlowe Avenue. The two (2) southern-most proposed site driveways on each street provide access to the garage as well as the private garage spaces for the walk up units. So only residents and office workers, which would be credential users were assigned to these driveways. The two (2) northern-most proposed site driveways would provide garage access for credential users and the general public. We adjusted the trip distribution in a manner which reflects the nature of the various access points for this development. The proposed New Peak Hour Site Trips are illustrated on [Figure 6A](#) and the proposed Pass-by Site Trips are illustrated on [Figure 6B](#). Combined, the Total Proposed Peak Hour Site Trips are illustrated on [Figure 6](#).

V. FUTURE TRAFFIC VOLUMES

No-Build Traffic Volumes

According to the ODOT website, and referenced in the previously approved Proposed Raising Cane's Chicken Fingers Traffic Impact Study dated November 2018, the traffic volumes within the study area have been increasing in a linear fashion throughout the past several decades. The website contained data ranging from 1983 to 2013 for historical traffic volumes on Detroit Avenue near the proposed development, and a growth rate of 0.16 percent per year was calculated ([Appendix D](#)). To be conservative, we rounded the growth rate up to 0.20 percent per year. Existing traffic volumes were projected to the 2023 Opening Year by applying the average annual linear growth rate of 0.2 percent per year to all movements at the study intersections.

The Cleveland Clinic Lakewood Hospital was in the process of being demolished when we conducted traffic counts at the study area intersections on February 21, 2019. Since the hospital traffic volume was not reflected within the count data, we performed trip generation calculations for the former hospital and distributed those trips to the roadway network, which are illustrated in [Figure 4](#). It should be noted that a majority of the former hospital trips were routed to the former adjacent parking garage using access from Belle Avenue.

To determine the 2023 Opening Year No-Build traffic volumes ([Figure 5](#)), the Former Hospital Peak Hour Trips ([Figure 4](#)) and the background growth was added to the 2019 Existing Peak Hour Traffic Volumes ([Figure 3](#)).

Build Traffic Volumes

We developed Build traffic volumes by adding the total site generated trips ([Figure 6](#)) to the No-Build traffic volumes ([Figure 5](#)), then subtracting the former hospital trips ([Figure 4](#)). The Net Proposed Site Trips ([Figure 6](#) minus [Figure 4](#)) are illustrated on [Figure 7](#). Build traffic volumes for the 2023 Opening Year are illustrated on [Figure 8](#).

VI. OPERATIONAL ANALYSIS

Capacity and Level of Service Analysis

Langan utilized the collected turning movement count data and existing roadway geometry and characteristics to perform capacity analyses based on Highway Capacity Manual (HCM) methodology for the study intersections. We used Synchro software to conduct the capacity analyses.

These analyses calculate the delay experienced by an average motorist and assigns the appropriate level of service (LOS). There are six levels of service that are defined for any intersection. They are given a letter designation from A to F, with LOS A representing the best operating conditions and LOS F the worst. Typically, review agencies consider LOS D or better acceptable for urban conditions.

[Table 1 & 2](#) in [Appendix E](#) depicts the level of service criteria for signalized and unsignalized intersections.

Existing, No Build, and Build levels of service (LOS) were calculated for the AM and PM peak hours on a typical day, as well as the SAT peak hour on a typical weekend. Existing peak hour factors, roadway grades, lane widths and heavy vehicle percentages obtained through collected data.

Due to the low volumes collected, the intersection of Franklin Boulevard & Marlowe Avenue yielded some very low peak hour factors and very high heavy vehicle percentages. To account for this and provide more accurate analyses in the No Build and Build conditions, we performed weighted average calculations using a default peak hour factor of 0.90 and a heavy vehicle percentage of 2%. Refer to [Appendix F](#) for the weighted average calculations.

The 2019 Existing, 2023 No Build, and 2023 Build levels of service are summarized in the Level of Service Comparison [Tables 2A – 2C](#). The 2019 Existing, 2023 No Build, and 2023 Build Synchro printouts can be found in [Appendix G, H, and I](#), respectively.

As shown in [Tables 2A – 2C](#), the capacity analyses indicate that under the Build conditions, the intersections within the study area will continue to operate at an overall LOS C or better.

Warrant Analyses

At the request of the City of Lakewood, we conducted a peak hour signal warrant analysis and a 4-way stop warrant analysis for the intersection of Franklin Boulevard & Marlowe Avenue. These warrants were based on guidelines provided in the MUTCD. Based on these analyses, neither the peak hour signal warrant nor the 4-way stop warrant were satisfied for the Existing, No Build, and Build condition. Refer to **Appendix J** for the warrant calculations.

VII. CONCLUSIONS

The results of this study provide a broad overview of the transportation impacts that are associated with the development of One Lakewood Place. The proposed development can be accommodated at this site with the following access points and associated traffic control signage:

- Construct two (2) full-access unsignalized driveways to/from Belle Avenue with exiting STOP sign control.
- Construct two (2) full-access unsignalized driveways to/from Marlowe Avenue with exiting STOP sign control.

The capacity analyses indicate that under the Build conditions, the intersections within the study area will continue to operate at an overall LOS C or better.

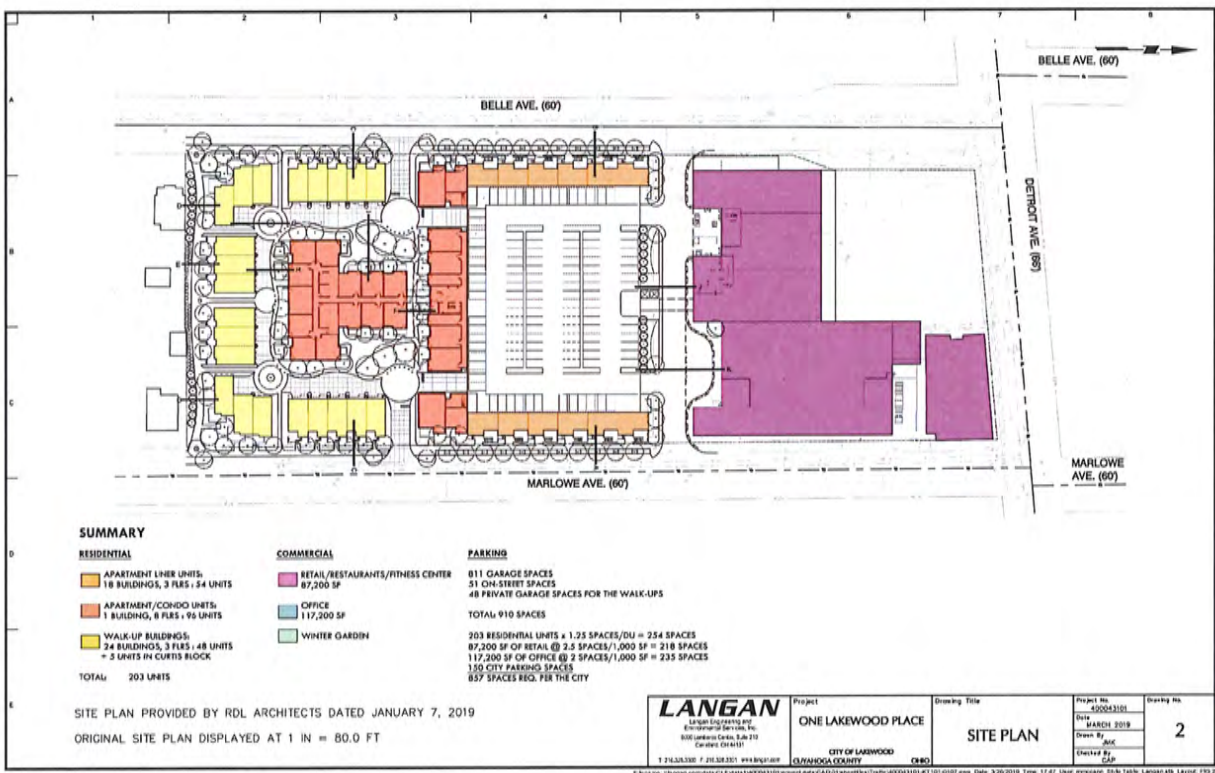
In conclusion, the proposed One Lakewood Place development will have little to no observable impact on the surrounding study area roads & intersections.

FIGURES

- Figure 1: Site Location Map
- Figure 2: Site Plan
- Figure 3: 2019 Existing Peak Hour Traffic Volumes
- Figure 4: Former Hospital Peak Hour Trips
- Figure 5: 2023 No Build Peak Hour Traffic Volumes
- Figure 6: Total Proposed Peak Hour Site Trips
- Figure 6A: Proposed New Peak Hour Site Trips
- Figure 6B: Pass-By Site Trips
- Figure 7: Net Proposed Peak Hour Site Trips
- Figure 8: 2023 Build Peak Hour Volumes



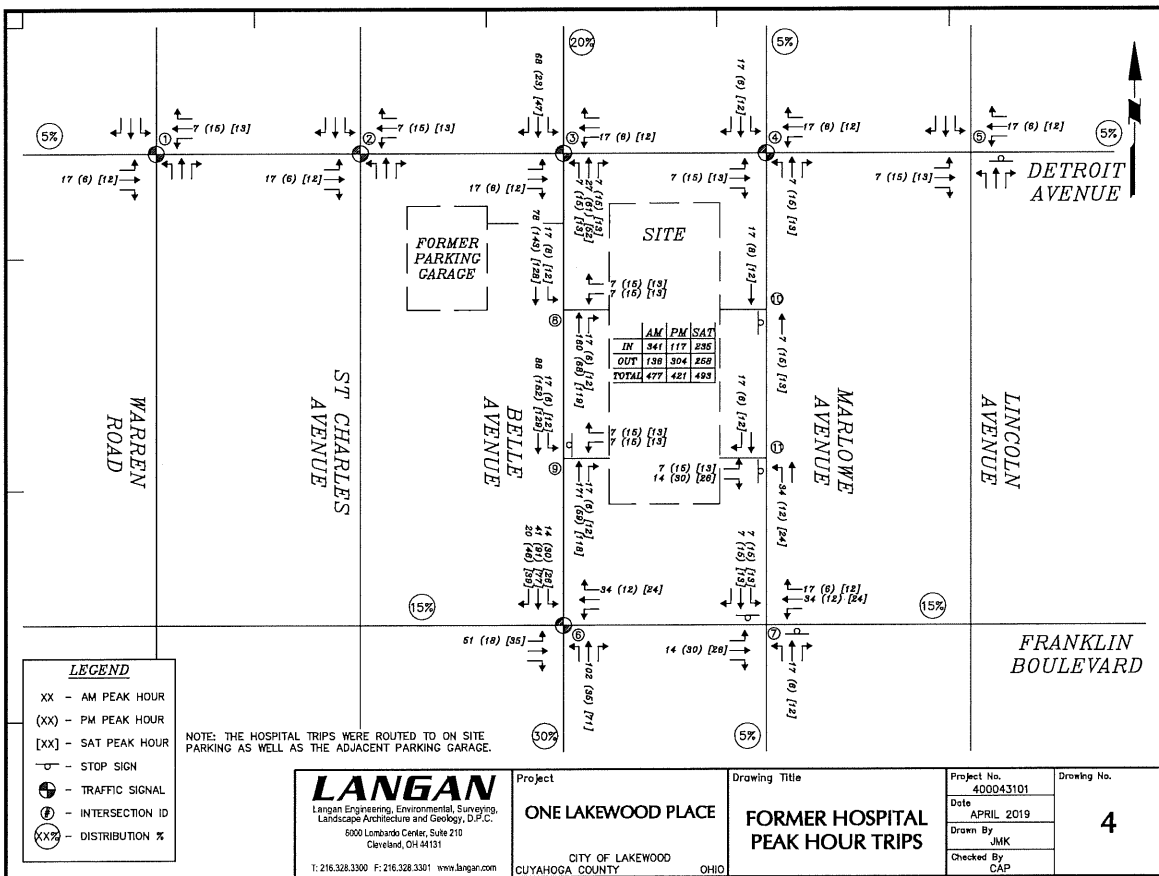
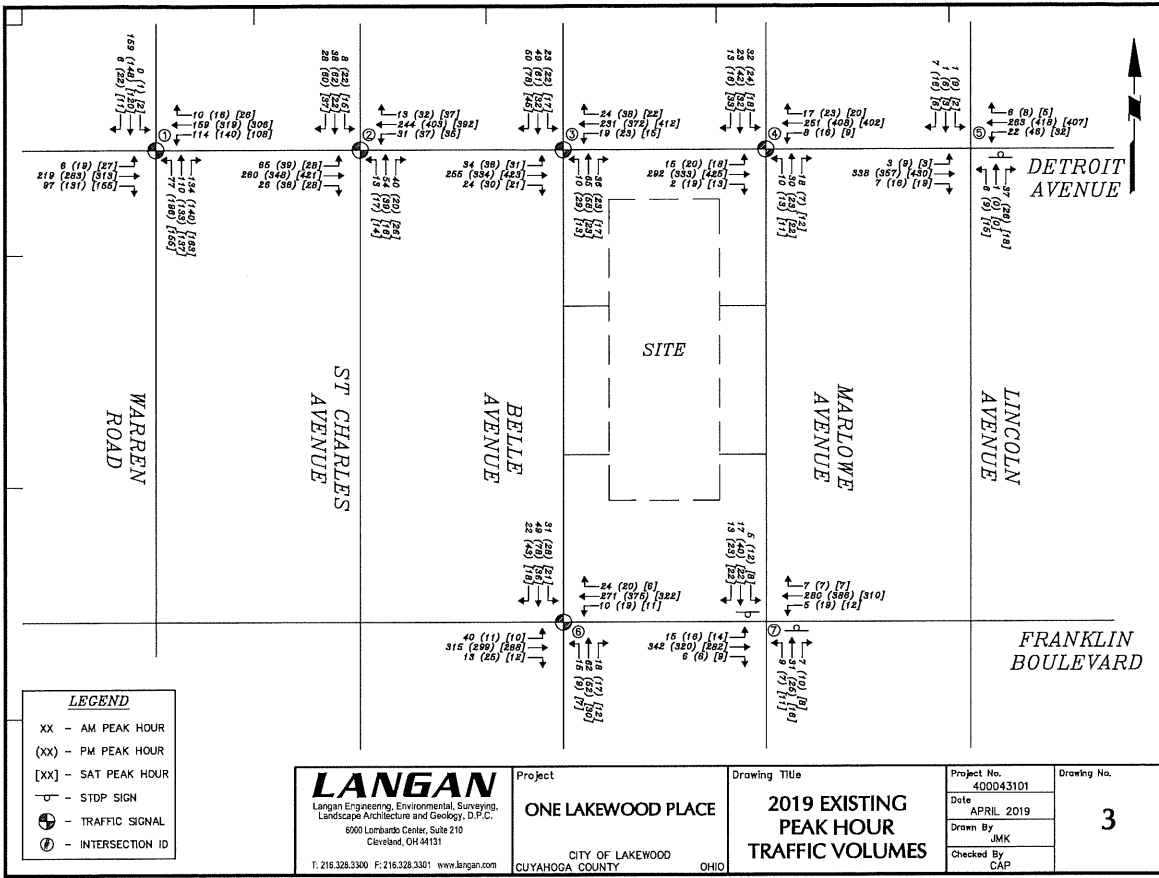
LANGAN Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C. 6500 Lombard Center, Suite 210 Cleveland, OH 44131 T: 216.328.3300 F: 216.328.3301 www.langan.com	Project ONE LAKEWOOD PLACE CITY OF LAKEWOOD CUYAHOGA COUNTY OHIO	Drawing Title SITE LOCATION MAP	Project No. 400043101 Date MARCH 2019 Drawn By JMK Checked By CAP	Drawing No. 1
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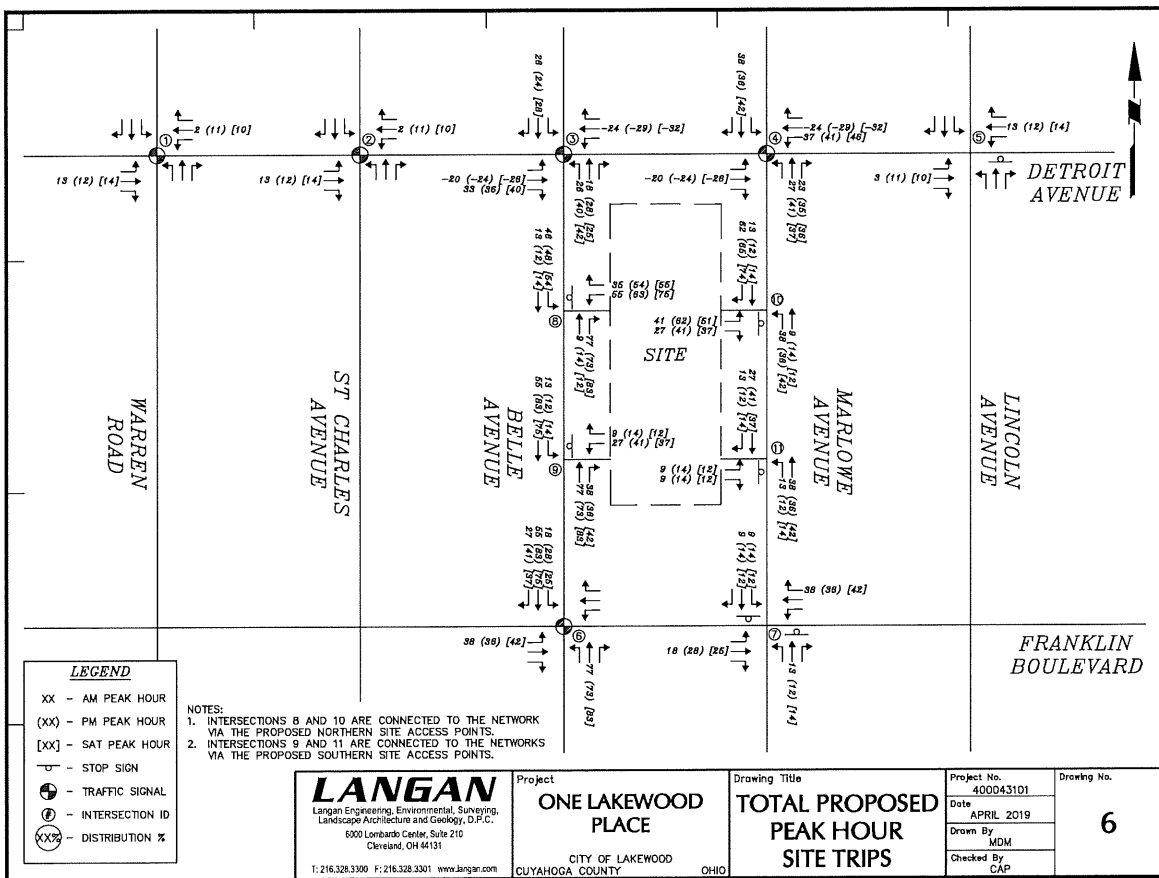
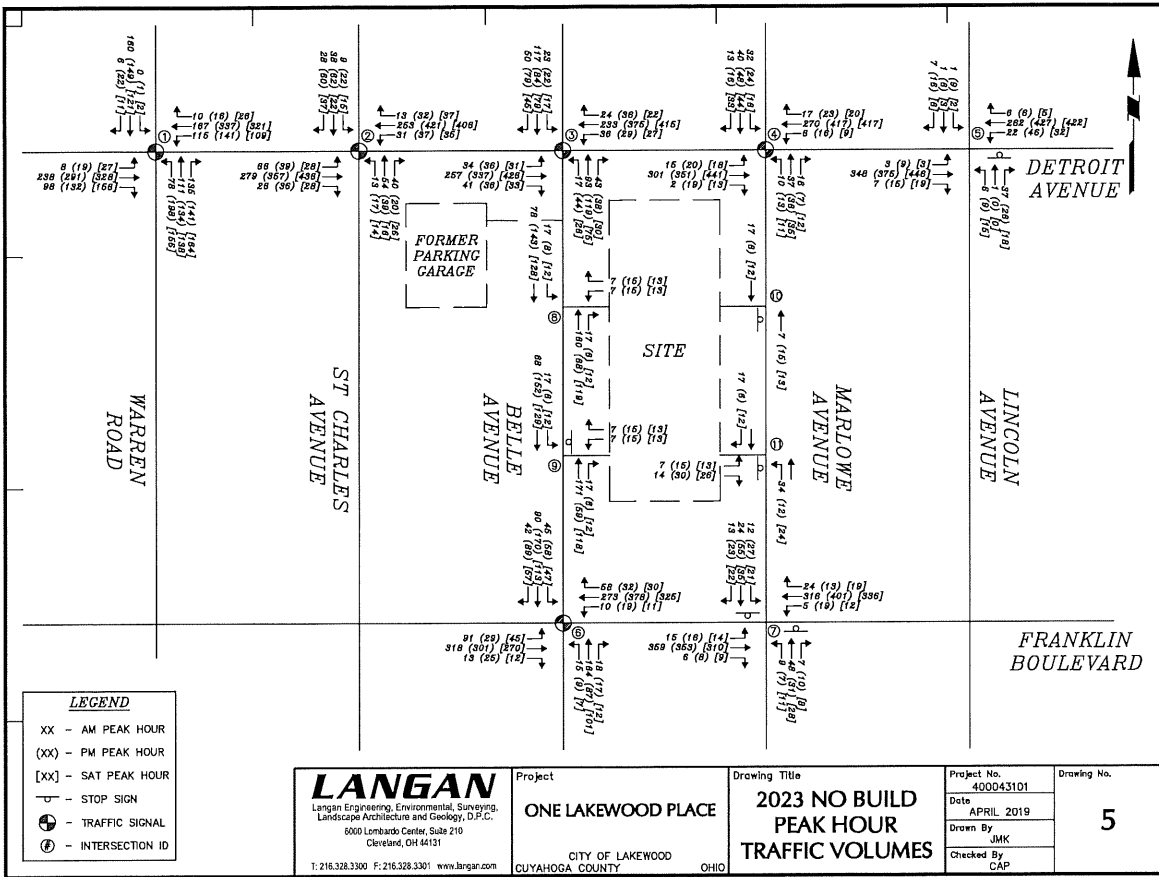


SUMMARY RESIDENTIAL APARTMENT LNER UNITS 18 BUILDINGS, 3 FLES - 54 UNITS APARTMENT/CONDO UNITS 1 BUILDING, 6 FLES - 96 UNITS WALK-UP BUILDINGS 24 BUILDINGS, 3 FLES - 48 UNITS = 5 UNITS IN CURTIS BLOCK TOTAL: 203 UNITS	COMMERCIAL RETAIL/RESTAURANTS/FITNESS CENTER 87,200 SF OFFICE 117,200 SF WINTER GARDEN	PARKING 811 GARAGE SPACES 51 ON-STREET SPACES 48 PRIVATE GARAGE SPACES FOR THE WALK-UPS TOTAL: 910 SPACES 203 RESIDENTIAL UNITS x 1.25 SPACES/DU = 254 SPACES 87,200 SF OF RETAIL @ 2.5 SPACES/1,000 SF = 218 SPACES 117,200 SF OF OFFICE @ 2 SPACES/1,000 SF = 235 SPACES 130 CITY PARKING SPACES 857 SPACES REQ. FOR THE CITY
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SITE PLAN PROVIDED BY RDL ARCHITECTS DATED JANUARY 7, 2019
 ORIGINAL SITE PLAN DISPLAYED AT 1 IN = 80.0 FT

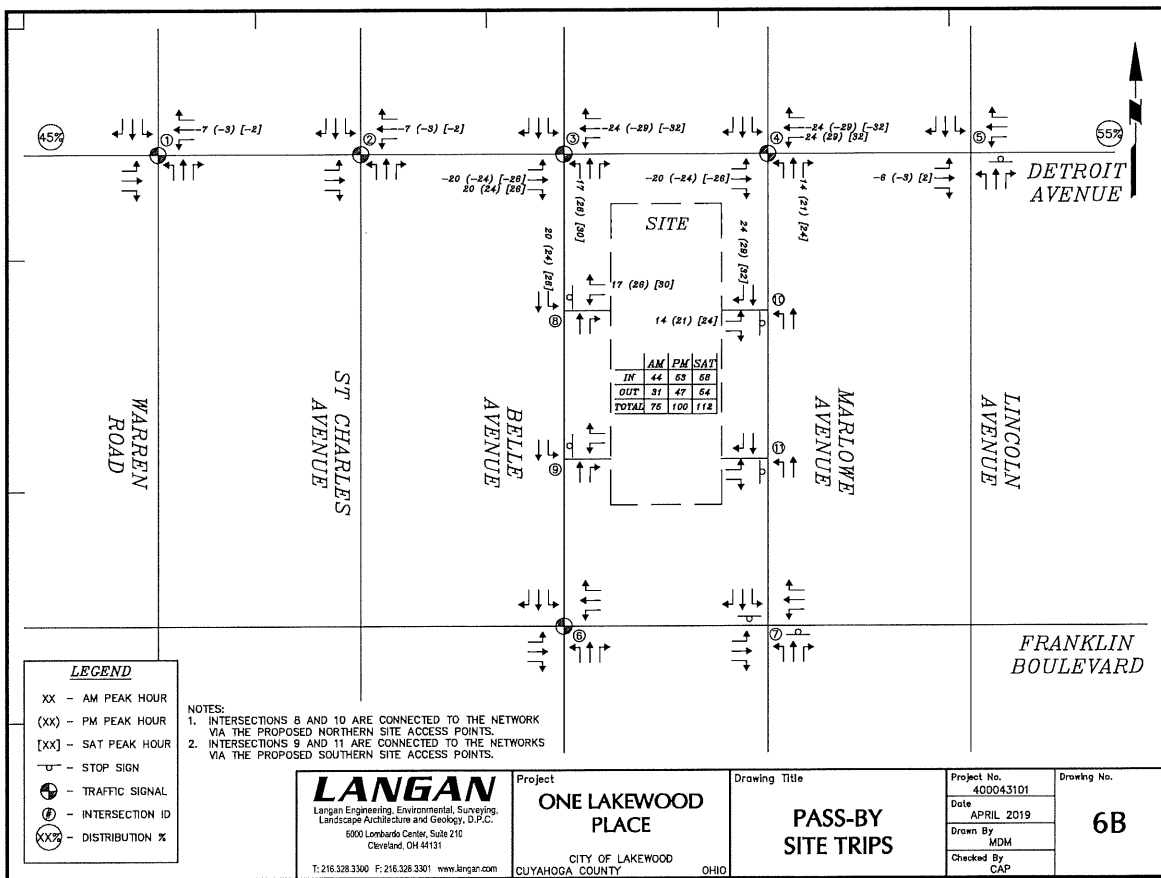
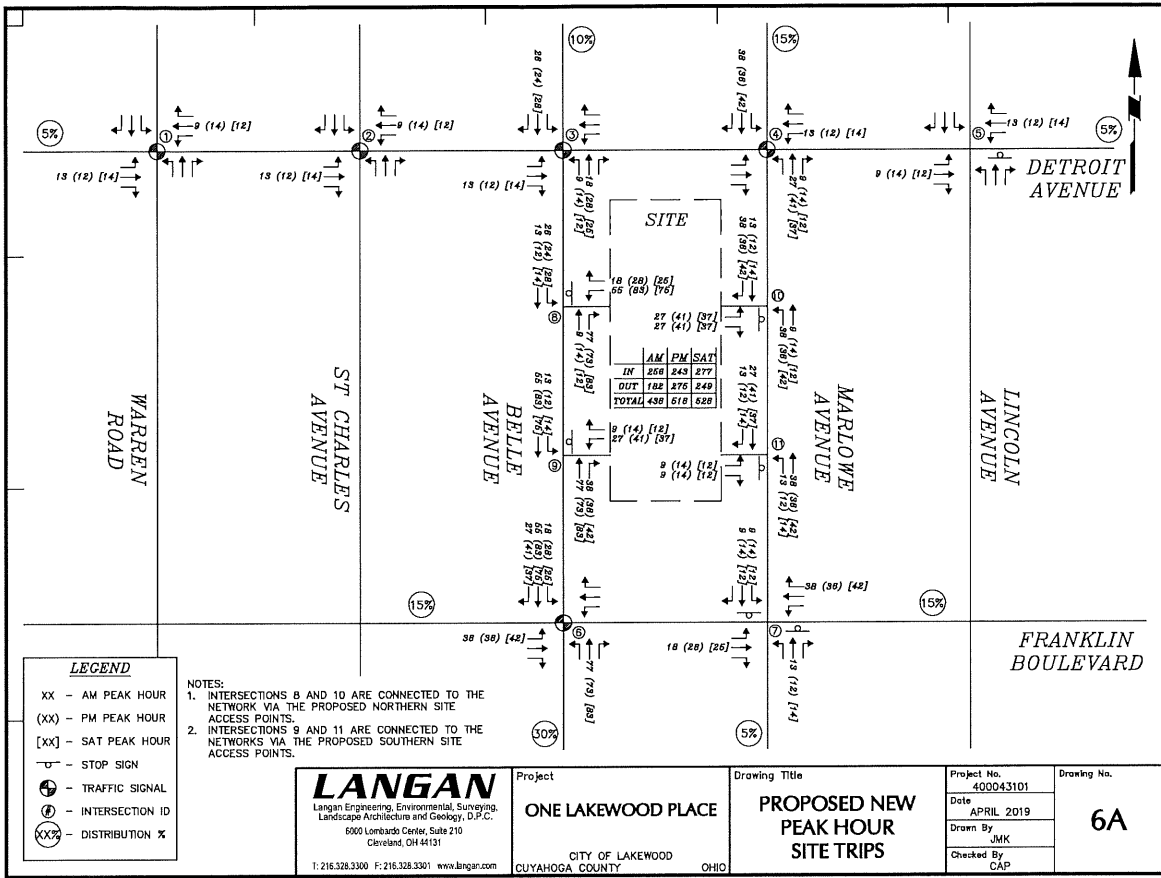
LANGAN Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C. 6500 Lombard Center, Suite 210 Cleveland, OH 44131 T: 216.328.3300 F: 216.328.3301 www.langan.com	Project ONE LAKEWOOD PLACE CITY OF LAKEWOOD CUYAHOGA COUNTY OHIO	Drawing Title SITE PLAN	Project No. 400043101 Date MARCH 2019 Drawn By JMK Checked By CAP	Drawing No. 2
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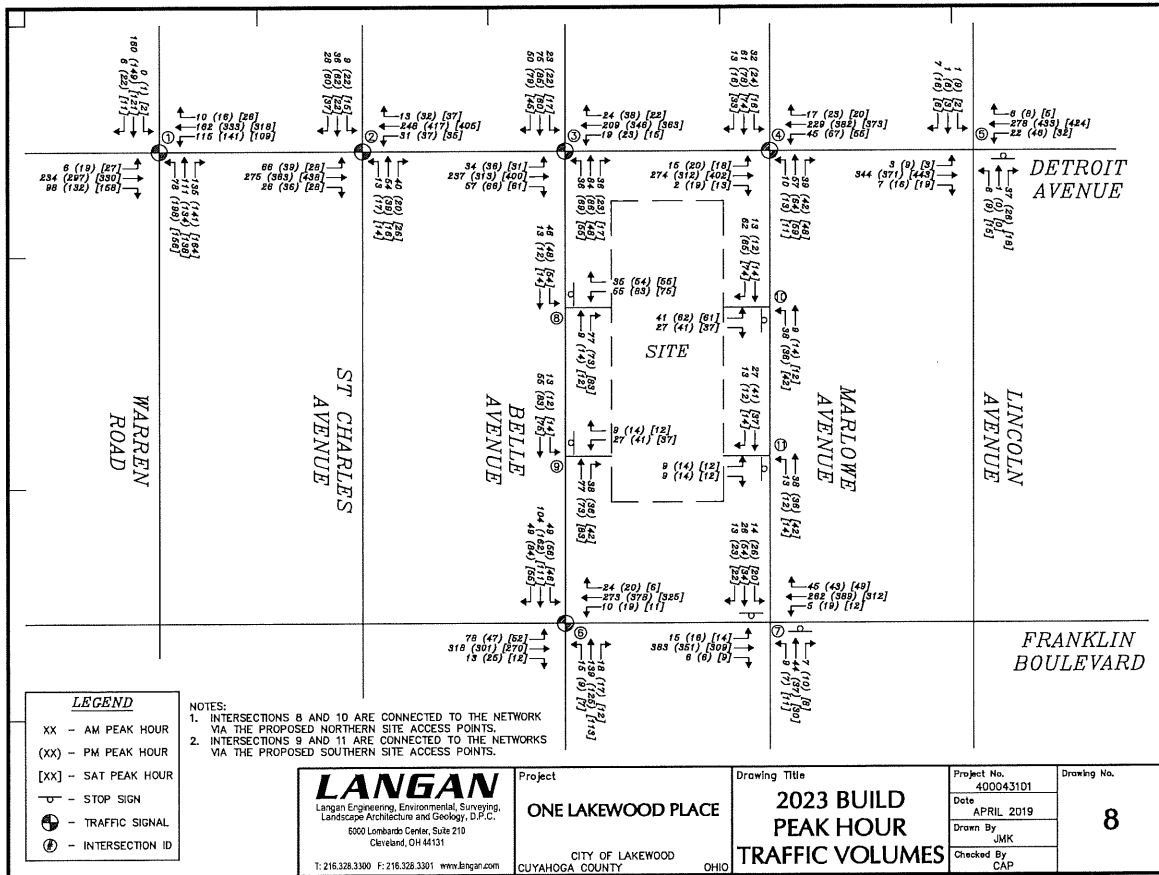
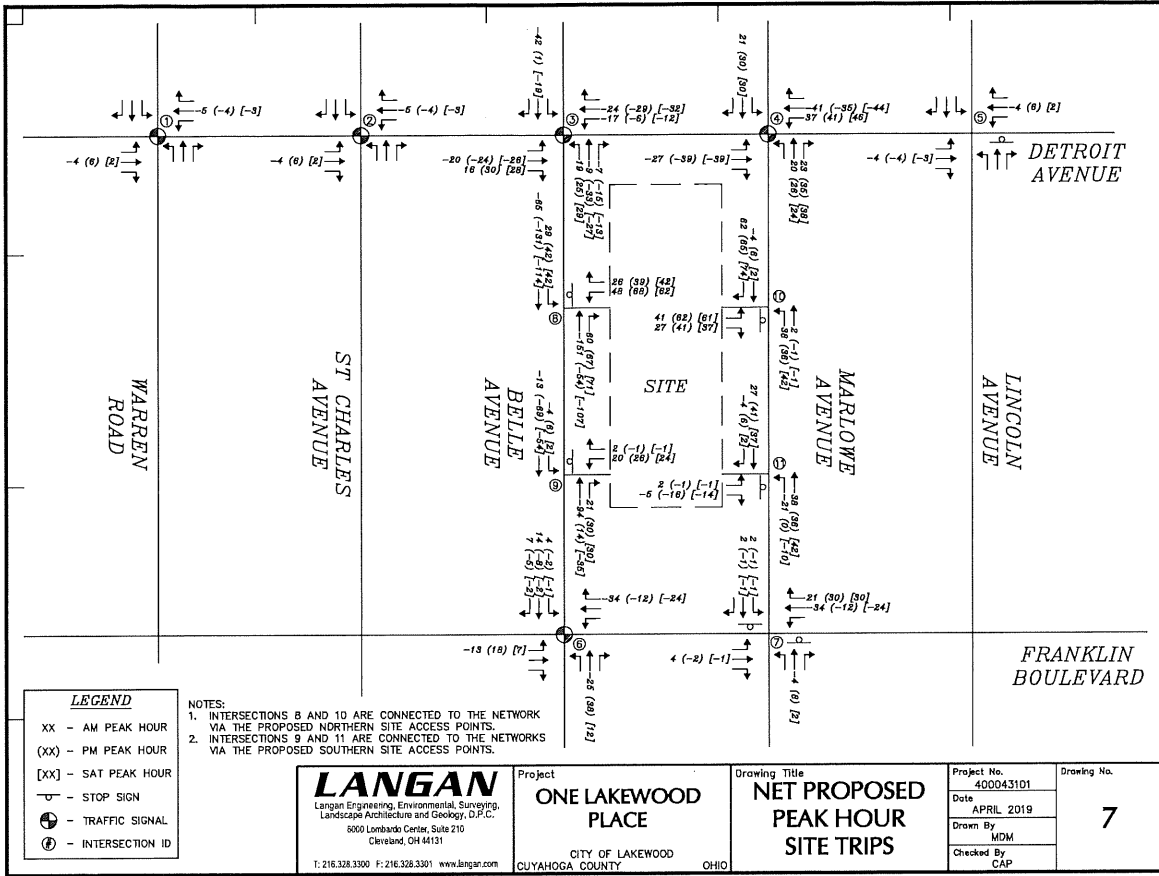




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TABLES

**Table 1: Site Trip Generation
Table 2A: AM Peak Hour Level of Service Comparison
Table 2B: PM Peak Hour Level of Service Comparison
Table 2C: SAT Peak Hour Level of Service Comparison**

**TABLE 1
One Lakewood Place
Site Trip Generation Comparison**

Land Use	ITE Code	Site	Units	AM Peak Hour			PM Peak Hour			SAT Peak Hour			Weekday ARI	
				IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL		
Former														
Hospital	610	261	Beds	351	351	502	125	110	561	211	215	518	6,332	
Total Former Site Generated				361	141	502	124	319	443	243	275	518	6,332	
Mode Split Reductions														
Transit	2%			8	2	10	3	6	9	3	7	10	127	
Bicycle / Other	1%			4	1	5	1	3	4	2	2	5	63	
Pedestrian	2%			8	2	10	3	6	9	2	7	10	122	
Total Mode Split Reductions				20	5	25	7	15	22	8	17	25	317	
Total Former External Site Generated				341	136	477	117	304	421	235	258	493	6,015	
Proposed														
Apartment	220	126	UNIT	14	45	59	46	27	73	56	47	103	912	
Residential Condominium/Townhouse	230	77	UNIT	7	35	42	33	16	49	35	30	65	512	
Flex/Center	492	26,600	SF	18	17	35	59	44	103	41	42	84	1,010	
General Office	710	117,200	SF	118	19	137	21	111	132	33	29	62	1,218	
Shopping Center	820	48,320	SF	109	47	176	152	165	317	181	167	348	3,466	
High-Turnover (Sit-Down) Restaurant	932	12,480	SF	68	54	124	74	46	122	71	69	140	1,400	
Waste/Garden		1,800	SF	0	0	0	0	0	0	0	0	0	0	
Total Proposed Site Generated				334	239	573	387	409	796	417	385	802	8,758	
Mode Split Reductions														
Transit	2%			7	4	11	9	7	16	8	8	16	175	
Bicycle / Other	1%			4	2	6	4	4	8	4	4	8	80	
Pedestrian	2%			7	4	11	8	7	15	8	8	16	172	
Total Mode Split Reductions				18	10	28	21	18	39	20	20	40	428	
Internal Capture														
Residential to Office			See Calculations	0	2	2	2	0	2	1	0	1	20	
Office to Residential			See Calculations	2	0	2	0	2	2	0	1	1	20	
Residential to Retail			See Calculations	3	4	9	28	24	54	28	26	54	540	
Retail to Residential			See Calculations	6	3	9	26	28	54	26	28	54	540	
Office to Retail			See Calculations	3	2	5	7	4	13	1	4	7	130	
Retail to Office			See Calculations	2	1	3	6	7	12	6	1	7	132	
Total Internal Capture Reductions				16	16	32	69	69	138	62	62	124	1,380	
Pass By Reductions														
Shopping Center	820	24%	34%	26%	24	14	38	21	33	64	41	37	78	642
High-Turnover (Sit-Down) Restaurant	932	22%	62%	22%	16	12	32	22	11	33	12	12	34	354
Total Pass By Reductions				44	31	75	53	47	100	58	54	112	997	
Total Proposed External Site Generated				256	182	438	243	275	518	277	249	526	5,743	
Net Difference in Total External Site Generated				-85	45	-39	126	-29	97	42	-9	33	-72	

Notes:
 All calculations were done using the ITE Trip Generation Manual (10th ed 2016), with the exception of the Residential Condominium/Townhouse land use. There was no data on that specific land use in the 10th ed of the manual, so these calculations are based on data from the 9th edition.
 The ITE Trip Generation Manual, 9th edition does not include directional distribution information for an apartment for the SAT Peak Hour, so it was assumed to mirror the residential condominium/townhouse land use.
 The AM Peak Hour Pass By Percentage was assumed to be 10% less than the PM Peak Hour Pass By Percentage if no data was available.
 The SAT Peak Hour Pass By Percentage was assumed to equal the AM Peak Hour Pass By Percentage if no data was available.
 If no Weekday ADT information was available, we assumed the PM Peak Hour Total represented 10% of the Weekday ADT.
 Internal Capture calculations based on ITE methodology and shown in separate spreadsheet.
 A Negative Net Difference indicates the Proposed Development generates less trips than the Former Use.

Analyst
Date

MAK
3/5/2019

MULTI-USE DEVELOPMENT TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY

Scenario
Time Period
Alt.

Full Build
AM
1

Land Use A				Retail				Land Use D				Retail			
ITE LU Code		492/820/932		10%	20	10%	0	ITE LU Code		0		ITE LU Code		0	
Size		87,200			0			Size		0		Size		0	
	Total	Internal	External						Total	Internal	External		Total	Internal	External
Enter	195	8	187	10%	14	10%	0	Enter	0	0	0	Enter	0	0	0
Exit	140	6	134					Exit	0	0	0	Exit	0	0	0
Total	335	14	321					Total	0	0	0	Total	0	0	0
%	100%	4%	96%					%	100%	#DIV/0!	#DIV/0!	%	100%	#DIV/0!	#DIV/0!
				9%	13	2%	0					9%	0	12%	0
				3			0					0			0
				13%	3	6%	7					13%	3	8%	6
2%	3	3%	6									9%	0	12%	0
3			2									0			0
6%	7	8%	2									13%	3	8%	6

Land Use B				Office				Land Use C				Residential			
ITE LU Code		710		3%	0	12%	23	ITE LU Code		220/230		ITE LU Code		220/230	
Size		117,200		0	6			Size		203		Size		203	
	Total	Internal	External						Total	Internal	External		Total	Internal	External
Enter	118	5	113	2%	2	2%	2	Enter	21	3	18	Enter	21	3	18
Exit	19	2	17					Exit	80	8	72	Exit	80	8	72
Total	137	7	130					Total	101	11	90	Total	101	11	90
%	100%	5%	95%	0%	0	0%	0	%	100%	11%	89%	%	100%	11%	89%
				8%	2	8%	6								
				2%	2	2%	2								
				0%	0	0%	0								

Net External Trips for Multi-Use Development

	Land Use A	Land B	Land C	Land D	Total	Internal Capture
Enter	187	113	18	0	318	
Exit	134	17	72	0	223	
Total	321	130	90	0	541	
Single-Use Trip Gen. Est.	335	137	101	0	573	6%

Analyst
Date

MAK
3/5/2019

MULTI-USE DEVELOPMENT TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY

Scenario
Time Period
Alt.

Full Build
PM
1

Land Use A				Retail				Land Use D				Retail			
ITE LU Code		492/820/932		20%	57	20%	0	ITE LU Code		0		ITE LU Code		0	
Size		87,200			0			Size		0		Size		0	
	Total	Internal	External						Total	Internal	External		Total	Internal	External
Enter	287	32	255	20%	51	20%	0	Enter	0	0	0	Enter	0	0	0
Exit	255	35	220					Exit	0	0	0	Exit	0	0	0
Total	542	67	475					Total	0	0	0	Total	0	0	0
%	100%	12%	88%					%	100%	#DIV/0!	#DIV/0!	%	100%	#DIV/0!	#DIV/0!
				12%	31	3%	0					12%	0	9%	0
				28			0					0			0
				31%	28	31%	7					31%	28	53%	41
3%	8	2%	6									12%	0	9%	0
7			6									0			0
31%	7	23%	26									31%	28	53%	41

Land Use B				Office				Land Use C				Residential			
ITE LU Code		710		2%	0	9%	26	ITE LU Code		220/230		ITE LU Code		220/230	
Size		117,200		0	26	53%	41	Size		203		Size		203	
	Total	Internal	External						Total	Internal	External		Total	Internal	External
Enter	21	7	14	0%	0	0%	0	Enter	91	30	61	Enter	91	30	61
Exit	111	8	103					Exit	77	26	51	Exit	77	26	51
Total	132	15	117					Total	168	56	112	Total	168	56	112
%	100%	11%	89%	2%	2	2%	2	%	100%	33%	67%	%	100%	33%	67%
				23%	26	53%	41								
				0%	0	0%	0								
				2%	2	2%	2								

Net External Trips for Multi-Use Development

	Land Use A	Land B	Land C	Land D	Total	Internal Capture
Enter	255	14	61	0	330	
Exit	220	103	51	0	374	
Total	475	117	112	0	704	
Single-Use Trip Gen. Est.	542	132	168	0	842	16%

Analyst: MAK
Date: 3/5/2019

MULTI-USE DEVELOPMENT TRIP GENERATION AND INTERNAL CAPTURE SUMMARY

Name of Development: All.
Time Period: All.

Full Build MD (Sat): 1

Land Use A Retail				Land Use D Retail							
ITE LU Code	492/820/932			30%	88	30%	0	ITE LU Code	0		
Size	87,200				0			Size	0		
	Total	Internal	External						Total	Internal	External
Enter	293	32	261	30%	84	30%	0	Enter	0	0	0
Exit	279	29	250					Exit	0	0	0
Total	572	61	511					Total	0	0	0
%	100%	11%	89%	12%	33	1%	0	%	100%	#DIV/0!	#DIV/0!
				28		0					
				31%	28	31%	10				
0.5%	1	2%	6					12%	0	9%	0
	1		6						0		0
31%	10	23%	7					31%	28	53%	41

Land Use B Office				Land Use C Residential							
ITE LU Code	710			2%	0	9%	26	ITE LU Code	220/230		
Size	117,200				0		26	Size	203		
	Total	Internal	External						Total	Internal	External
Enter	33	1	32	0%	0	0%	0	Enter	91	29	62
Exit	29	7	22					Exit	77	26	51
Total	62	8	54		1			Total	168	55	113
%	100%	13%	87%	2%	1	2%	2	%	100%	33%	67%

Net External Trips for Multi-Use Development

	Land Use A	Land B	Land C	Land D	Total	Internal Capture
Enter	261	32	62	0	355	
Exit	250	22	51	0	323	
Total	511	54	113	0	678	
Single-Use Trip Gen. Est.	572	62	168	0	802	15%

LANGAN

Table 2A
Level of Service

AM / PM / SAT PEAK	Direction	Approach / Movement	AM PEAK HOUR (0551 - 0645)			
			2019 Existing	No Build	2033 Existing Year	Build with Mitigation
INTERSECTION	Deerfoot Ave	Through	B (02:51)	B (04:51)	B (02:51)	B (02:51)
		Through	C (02:52)	C (02:51)	C (02:51)	C (02:51)
		Approach	B (03:21)	B (03:21)	B (03:21)	B (03:21)
		Left Turn	B (11:21)	B (11:21)	B (11:21)	B (11:21)
		Right Turn	B (11:21)	B (11:21)	B (11:21)	B (11:21)
		Approach	B (12:41)	B (12:41)	B (12:41)	B (12:41)
	Wentworth Ave	Through	B (02:51)	B (03:51)	B (02:51)	B (02:51)
		Through	C (02:52)	C (02:51)	C (02:51)	C (02:51)
		Approach	B (03:21)	B (03:21)	B (03:21)	B (03:21)
		Left Turn	B (11:21)	B (11:21)	B (11:21)	B (11:21)
		Right Turn	B (11:21)	B (11:21)	B (11:21)	B (11:21)
		Approach	B (12:41)	B (12:41)	B (12:41)	B (12:41)
INTERSECTION	Deerfoot Ave	Through	A (03:51)	A (03:51)	A (03:51)	A (03:51)
		Through	A (07:21)	A (07:21)	A (07:21)	A (07:21)
		Approach	A (07:21)	A (07:21)	A (07:21)	A (07:21)
		Left Turn	A (03:51)	A (03:51)	A (03:51)	A (03:51)
		Right Turn	A (03:51)	A (03:51)	A (03:51)	A (03:51)
		Approach	A (07:21)	A (07:21)	A (07:21)	A (07:21)
	Wentworth Ave	Through	A (03:51)	A (03:51)	A (03:51)	A (03:51)
		Through	A (07:21)	A (07:21)	A (07:21)	A (07:21)
		Approach	A (07:21)	A (07:21)	A (07:21)	A (07:21)
		Left Turn	A (03:51)	A (03:51)	A (03:51)	A (03:51)
		Right Turn	A (03:51)	A (03:51)	A (03:51)	A (03:51)
		Approach	A (07:21)	A (07:21)	A (07:21)	A (07:21)
INTERSECTION	Deerfoot Ave	Through	A (03:51)	A (03:51)	A (03:51)	A (03:51)
		Through	A (07:21)	A (07:21)	A (07:21)	A (07:21)
		Approach	A (07:21)	A (07:21)	A (07:21)	A (07:21)
		Left Turn	A (03:51)	A (03:51)	A (03:51)	A (03:51)
		Right Turn	A (03:51)	A (03:51)	A (03:51)	A (03:51)
		Approach	A (07:21)	A (07:21)	A (07:21)	A (07:21)
	Wentworth Ave	Through	A (03:51)	A (03:51)	A (03:51)	A (03:51)
		Through	A (07:21)	A (07:21)	A (07:21)	A (07:21)
		Approach	A (07:21)	A (07:21)	A (07:21)	A (07:21)
		Left Turn	A (03:51)	A (03:51)	A (03:51)	A (03:51)
		Right Turn	A (03:51)	A (03:51)	A (03:51)	A (03:51)
		Approach	A (07:21)	A (07:21)	A (07:21)	A (07:21)

Table 2A
Level of Service

AM / PM / SAT PEAK	AM PEAK HOUR (05:37 - 08:04)			
	2019	2033 Opening Year	Build with Mitigation	
Direction / Approach / Movement	Existing	No Build	Build	Build with Mitigation
DEVELOP AVE				
INTERSECTION				
DEVELOP AVE				
Eastbound	Left Turn A (5.5)	A (5.7)	A (6.3)	
	Right Turn A (6.4)	A (7.9)	A (8.3)	
	Approach A (6.3)	A (7.8)	A (8.2)	
Westbound	Left Turn A (5.4)	A (5.5)	A (7.0)	
	Through A (6.0)	A (7.3)	A (7.7)	
	Right Turn A (6.0)	A (7.4)	A (7.0)	
Marlowe Ave				
Northbound	Through A (12.6)	B (12.9)	B (13.2)	
	Right Turn B (12.6)	B (12.9)	B (13.2)	
Southbound	Left Turn B (12.6)	B (12.9)	B (13.2)	
	Right Turn B (12.6)	B (12.9)	B (13.2)	
OVERALL				
	A (7.4)	A (8.9)	A (9.4)	
INTERSECTION				
DEVELOP AVE				
Eastbound	Left Turn A (8.0)	A (8.1)	A (8.3)	
	Right Turn A (1.0)	A (1.0)	A (1.0)	
	Approach A (1.1)	A (1.1)	A (1.1)	
Westbound	Left Turn A (8.3)	A (8.4)	A (8.3)	
	Through A (1.0)	A (1.0)	A (1.0)	
	Right Turn A (1.0)	A (1.0)	A (1.0)	
Lincoln Ave				
Northbound	Through B (12.6)	B (12.9)	B (12.8)	
	Right Turn B (12.6)	B (12.9)	B (12.8)	
Southbound	Left Turn B (12.6)	B (12.9)	B (12.8)	
	Right Turn B (12.6)	B (12.9)	B (12.8)	
OVERALL				
	B (11.9)	B (12.2)	B (12.1)	
INTERSECTION				
FRANKLIN BLVD				
Eastbound	Through A (6.5)	B (12.0)	B (10.9)	
	Right Turn A (9.0)	B (13.6)	B (14.3)	
Southbound	Left Turn A (8.7)	B (13.3)	B (11.6)	
	Right Turn A (5.9)	A (7.7)	A (8.2)	
Westbound	Through A (8.3)	B (13.2)	B (11.9)	
	Right Turn A (8.2)	B (13.0)	B (12.6)	
Ballie Ave				
Northbound	Through B (11.5)	B (16.8)	B (15.4)	
	Right Turn B (11.5)	C (16.8)	C (15.4)	
Southbound	Through B (14.3)	B (16.8)	B (17.2)	
	Right Turn B (14.3)	C (16.8)	C (17.2)	
OVERALL				
	A (9.7)	B (14.3)	B (14.3)	

Table 2A
Level of Service

AM / PM / SAT PEAK	AM PEAK HOUR (05:37 - 08:04)			
	2019	2033 Opening Year	Build with Mitigation	
Direction / Approach / Movement	Existing	No Build	Build	Build with Mitigation
FRANKLIN BLVD				
INTERSECTION				
FRANKLIN BLVD & MARLOWE AVE				
Eastbound	Left Turn A (8.3)	A (8.5)	A (8.5)	
	Right Turn A (1.0)	A (1.0)	A (1.0)	
	Approach A (1.3)	A (1.3)	A (1.3)	
Westbound	Left Turn A (8.7)	A (8.7)	A (8.7)	
	Through A (1.0)	A (1.0)	A (1.0)	
	Right Turn A (1.1)	A (1.1)	A (1.1)	
Marlowe Ave				
Northbound	Through O (50.3)	E (41.7)	E (38.2)	
	Right Turn O (30.3)	E (41.7)	E (38.2)	
Southbound	Left Turn C (12.8)	D (32.8)	D (32.3)	
	Right Turn C (12.8)	D (32.8)	D (32.3)	
OVERALL				
	A (8.2)	A (8.3)	A (8.0)	
INTERSECTION				
NORTHERN GARAGE ENTRANCE				
Westbound	Left Turn A (9.8)	A (9.8)	A (9.7)	
	Right Turn A (9.8)	A (9.8)	A (9.7)	
Northbound	Through A (1.0)	A (1.0)	A (1.0)	
	Right Turn A (1.0)	A (1.0)	A (1.0)	
Southbound	Left Turn A (7.6)	A (7.6)	A (7.5)	
	Right Turn A (11.0)	A (11.0)	A (10.9)	
OVERALL				
	A (1.9)	A (1.9)	A (1.9)	
INTERSECTION				
SOUTHERN GARAGE ENTRANCE				
Westbound	Left Turn A (9.9)	A (9.9)	A (9.6)	
	Right Turn A (9.9)	A (9.9)	A (9.6)	
Northbound	Through A (1.0)	A (1.0)	A (1.0)	
	Right Turn A (1.0)	A (1.0)	A (1.0)	
Southbound	Left Turn A (7.7)	A (7.7)	A (7.5)	
	Right Turn A (11.5)	A (11.5)	A (11.4)	
OVERALL				
	A (1.9)	A (1.9)	A (1.9)	
INTERSECTION				
NORTHERN GARAGE ENTRANCE				
Eastbound	Left Turn A (9.4)	A (9.4)	A (9.4)	
	Right Turn A (9.4)	A (9.4)	A (9.4)	
Northbound	Through A (7.4)	A (7.4)	A (7.4)	
	Approach A (6.0)	A (6.0)	A (6.0)	
Southbound	Through A (1.0)	A (1.0)	A (1.0)	
	Approach A (1.0)	A (1.0)	A (1.0)	
OVERALL				
	A (4.8)	A (4.8)	A (4.8)	
INTERSECTION				
SOUTHERN GARAGE ENTRANCE				
Eastbound	Left Turn A (8.7)	A (8.8)	A (8.8)	
	Right Turn A (8.7)	A (8.7)	A (8.8)	
Northbound	Through A (7.4)	A (7.4)	A (8.8)	
	Approach A (7.3)	A (7.3)	A (13.9)	
Southbound	Through A (1.0)	A (1.0)	A (1.0)	
	Approach A (1.0)	A (1.0)	A (1.0)	
OVERALL				
	A (6.0)	A (7.3)	A (7.3)	

Table 2B
Level of Service

AM / PM / SAT PEAK	Direction / Approach / Movement	PM PEAK HOUR (05 / 07 / 09 AM)				2033 Opening Year	Build with Mitigation
		2019	Existing	No Build	Build		
INTERSECTION							
Detroit Ave							
Eastbound	Left Turn	B (13.3)	B (13.3)	B (13.3)	B (13.3)		
	Through	C (27.2)	C (27.2)	C (27.2)	C (27.2)		
	Right Turn	C (18.7)	C (18.7)	C (18.7)	C (18.7)		
	Approach	B (16.4)	B (16.5)	B (16.5)	B (16.5)		
Westbound	Through	C (23.2)	C (23.8)	C (23.8)	C (23.6)		
	Right Turn	C (21.2)	C (21.7)	C (21.7)	C (21.6)		
Warren Ave							
Northbound	Through	C (21.1)	C (21.5)	C (21.7)	C (21.7)		
	Right Turn	B (14.2)	B (20.0)	C (20.2)	C (20.2)		
Southbound	Through	D (9.2)	D (9.7)	D (9.7)	D (9.7)		
	Right Turn	D (9.2)	D (9.7)	D (9.7)	D (9.7)		
OVERALL							
Approach		C (25.3)	C (25.7)	C (25.8)	C (25.8)		
INTERSECTION							
Detroit Ave							
Eastbound	Left Turn	A (6.5)	A (6.5)	A (6.5)	A (6.5)		
	Right Turn	A (8.0)	A (8.0)	A (8.1)	A (8.1)		
	Through	A (7.8)	A (7.9)	A (8.0)	A (8.0)		
	Approach	A (6.4)	A (6.4)	A (6.4)	A (6.4)		
Westbound	Through	A (9.6)	A (9.8)	A (9.8)	A (9.8)		
	Right Turn	A (9.4)	A (9.5)	A (9.5)	A (9.5)		
St Charles Ave							
Northbound	Through	B (11.9)	B (12.2)	B (12.1)	B (12.1)		
	Right Turn	B (11.9)	B (12.2)	B (12.1)	B (12.1)		
Southbound	Through	B (13.2)	B (13.4)	B (13.4)	B (13.4)		
	Right Turn	B (13.2)	B (13.4)	B (13.4)	B (13.4)		
OVERALL							
Approach		A (9.4)	A (9.6)	A (9.6)	A (9.6)		
INTERSECTION							
Detroit Ave & Belle Ave							
OVERALL							
Approach		B (12.8)	B (15.0)	B (15.9)	B (15.9)		
Eastbound	Left Turn	B (14.8)	B (15.0)	B (15.0)	B (15.0)		
	Through	A (4.1)	A (4.1)	A (4.1)	A (4.1)		
	Right Turn	B (13.6)	B (17.2)	B (16.1)	B (16.1)		
	Approach	B (12.0)	B (14.8)	B (14.6)	B (14.6)		
Westbound	Through	B (16.1)	C (21.7)	C (20.9)	C (20.9)		
	Right Turn	B (11.5)	C (21.2)	C (20.6)	C (20.6)		
Belle Ave							
Northbound	Through	C (26.5)	C (26.5)	C (26.5)	C (26.5)		
	Right Turn	A (4.0)	A (11.8)	A (1.3)	A (1.3)		
Southbound	Through	C (26.5)	C (26.5)	C (26.5)	C (26.5)		
	Right Turn	A (9.2)	A (9.8)	A (9.5)	A (9.5)		
OVERALL							
Approach		B (15.3)	C (20.6)	B (15.8)	B (15.8)		

Table 2B
Level of Service

AM / PM / SAT PEAK	Direction / Approach / Movement	PM PEAK HOUR (05 / 07 / 09 AM)				2033 Opening Year	Build with Mitigation
		2019	Existing	No Build	Build		
INTERSECTION							
Detroit Ave							
Eastbound	Left Turn	A (6.3)	A (5.3)	A (5.8)	A (5.8)		
	Through	A (6.8)	A (7.1)	A (7.6)	A (7.6)		
	Right Turn	A (6.2)	A (7.0)	A (7.2)	A (7.2)		
	Approach	A (5.2)	A (5.2)	A (6.0)	A (6.0)		
Westbound	Through	A (7.3)	A (7.5)	A (8.2)	A (8.2)		
	Right Turn	A (7.2)	A (7.4)	A (7.9)	A (7.9)		
Marlowe Ave							
Northbound	Through	B (13.6)	B (14.2)	B (14.7)	B (14.7)		
	Right Turn	B (13.6)	B (14.2)	B (14.7)	B (14.7)		
Southbound	Through	B (15.5)	B (15.7)	B (15.0)	B (15.0)		
	Right Turn	B (15.5)	B (15.7)	B (15.0)	B (15.0)		
OVERALL							
Approach		A (6.0)	A (6.4)	A (6.8)	A (6.8)		
INTERSECTION							
Detroit Ave							
Eastbound	Left Turn	A (8.5)	A (8.6)	A (8.6)	A (8.6)		
	Right Turn	A (4.0)	A (4.0)	A (4.0)	A (4.0)		
	Through	A (1.2)	A (1.2)	A (1.2)	A (1.2)		
	Approach	A (6.4)	A (6.5)	A (6.5)	A (6.5)		
Westbound	Through	A (4.0)	A (4.0)	A (4.0)	A (4.0)		
	Right Turn	A (1.8)	A (1.8)	A (1.8)	A (1.8)		
Lincoln Ave							
Northbound	Through	B (14.9)	C (15.3)	C (15.3)	C (15.3)		
	Right Turn	B (14.9)	C (15.3)	C (15.3)	C (15.3)		
Southbound	Through	D (25.7)	D (27.1)	D (27.3)	D (27.3)		
	Right Turn	D (25.7)	D (27.1)	D (27.3)	D (27.3)		
OVERALL							
Approach		A (14.9)	A (14.9)	A (14.9)	A (14.9)		
INTERSECTION							
Franklin Blvd							
Eastbound	Left Turn	A (5.9)	A (9.1)	A (10.0)	A (10.0)		
	Right Turn	A (7.8)	B (12.3)	B (12.6)	B (12.6)		
	Through	A (7.7)	B (12.0)	B (12.3)	B (12.3)		
	Approach	A (6.1)	A (8.5)	A (8.9)	A (8.9)		
Westbound	Through	A (8.6)	B (14.8)	B (14.8)	B (14.8)		
	Right Turn	A (8.5)	B (14.6)	B (14.5)	B (14.5)		
Belle Ave							
Northbound	Through	B (11.0)	B (11.5)	B (12.1)	B (12.1)		
	Right Turn	B (11.0)	B (11.5)	B (12.1)	B (12.1)		
Southbound	Through	B (13.2)	B (16.6)	B (16.1)	B (16.1)		
	Right Turn	B (13.2)	B (16.6)	B (16.1)	B (16.1)		
OVERALL							
Approach		A (9.2)	B (14.1)	B (13.9)	B (13.9)		

Table 2B
Level of Service

AM / PM / SAT PEAK	Direction / Approach / Movement	PM PEAK HOUR (057 / Delay)			Build with Mitigation
		2018 Existing	No Build	2033 Operating Year Build	
Franklin Blvd					
INTERSECTION					
[7] Franklin Blvd & Marlowe Ave					
Eastbound	Left Turn	A (8.2)	A (8.3)	A (8.3)	
	Through	A (1.0)	A (1.0)	A (1.0)	
	Right Turn	A (1.4)	A (1.4)	A (1.4)	
	Approach	A (8.1)	A (8.2)	A (8.2)	
Westbound	Left Turn	A (1.0)	A (1.0)	A (1.0)	
	Through	A (1.4)	A (1.4)	A (1.3)	
	Right Turn	A (1.4)	A (1.4)	A (1.3)	
	Approach	A (1.4)	A (1.4)	A (1.3)	
Marlowe Ave					
Northbound	Left Turn	C (18.6)	C (21.2)	C (22.2)	
	Through	C (18.6)	C (21.2)	C (22.2)	
	Right Turn	C (18.6)	C (21.2)	C (22.2)	
	Approach	C (18.5)	C (20.9)	D (23.1)	
Southbound	Left Turn	C (18.5)	C (20.9)	D (23.1)	
	Through	C (18.5)	C (20.9)	D (23.1)	
	Right Turn	C (18.5)	C (20.9)	D (23.1)	
	Approach	C (18.5)	C (20.9)	D (23.1)	
OVERALL					
[8] Belle Ave & Northern Garage Entrance					
INTERSECTION					
Northern Garage Entrance					
Westbound	Left Turn	A (9.4)	A (10.0)	A (10.0)	
	Through	A (9.4)	A (9.4)	A (10.0)	
	Right Turn	A (9.4)	A (9.4)	A (10.0)	
	Approach	A (9.4)	A (9.4)	A (10.0)	
Northbound	Left Turn	A (1.0)	A (1.0)	A (1.0)	
	Through	A (1.0)	A (1.0)	A (1.0)	
	Right Turn	A (7.4)	A (7.4)	A (7.5)	
	Approach	A (1.3)	A (1.3)	A (1.6)	
Southbound	Left Turn	A (1.3)	A (1.3)	A (1.6)	
	Through	A (1.3)	A (1.3)	A (1.6)	
	Right Turn	A (1.3)	A (1.3)	A (1.6)	
	Approach	A (1.3)	A (1.3)	A (1.6)	
OVERALL					
[9] Belle Ave & Southern Garage Entrance					
INTERSECTION					
Southern Garage Entrance					
Westbound	Left Turn	A (9.4)	A (9.8)	A (9.8)	
	Through	A (9.4)	A (9.4)	A (9.8)	
	Right Turn	A (9.4)	A (9.4)	A (9.8)	
	Approach	A (9.4)	A (9.4)	A (9.8)	
Northbound	Left Turn	A (1.0)	A (1.0)	A (1.0)	
	Through	A (1.0)	A (1.0)	A (1.0)	
	Right Turn	A (7.4)	A (7.4)	A (7.5)	
	Approach	A (1.3)	A (1.3)	A (1.6)	
Southbound	Left Turn	A (1.3)	A (1.3)	A (1.6)	
	Through	A (1.3)	A (1.3)	A (1.6)	
	Right Turn	A (1.3)	A (1.3)	A (1.6)	
	Approach	A (1.3)	A (1.3)	A (1.6)	
OVERALL					
[10] Marlowe & Northern Garage Entrance					
INTERSECTION					
Northern Garage Entrance					
Eastbound	Left Turn	A (9.6)	A (9.6)	A (9.6)	
	Through	A (9.6)	A (9.6)	A (9.6)	
	Right Turn	A (9.6)	A (9.6)	A (9.6)	
	Approach	A (9.6)	A (9.6)	A (9.6)	
Northbound	Left Turn	A (7.4)	A (7.4)	A (7.4)	
	Through	A (1.0)	A (1.0)	A (1.0)	
	Right Turn	A (1.0)	A (1.0)	A (1.0)	
	Approach	A (1.0)	A (1.0)	A (1.0)	
Southbound	Left Turn	A (1.0)	A (1.0)	A (1.0)	
	Through	A (1.0)	A (1.0)	A (1.0)	
	Right Turn	A (1.0)	A (1.0)	A (1.0)	
	Approach	A (1.0)	A (1.0)	A (1.0)	
OVERALL					
[11] Marlowe & Southern Garage Entrance					
INTERSECTION					
Southern Garage Entrance					
Eastbound	Left Turn	A (8.6)	A (9.0)	A (9.0)	
	Through	A (8.6)	A (8.6)	A (9.0)	
	Right Turn	A (8.6)	A (8.6)	A (9.0)	
	Approach	A (8.6)	A (8.6)	A (9.0)	
Northbound	Left Turn	A (7.2)	A (7.3)	A (7.3)	
	Through	A (1.0)	A (1.0)	A (1.0)	
	Right Turn	A (1.0)	A (1.0)	A (1.0)	
	Approach	A (1.0)	A (1.0)	A (1.0)	
Southbound	Left Turn	A (1.0)	A (1.0)	A (1.0)	
	Through	A (1.0)	A (1.0)	A (1.0)	
	Right Turn	A (1.0)	A (1.0)	A (1.0)	
	Approach	A (1.0)	A (1.0)	A (1.0)	
OVERALL					
A (7.5) A (7.5) A (7.5)					

Table 2C
Level of Service

AM / PM / SAT PEAK	Direction / Approach / Movement	SAT PEAK HOUR (057 / Delay)			Build with Mitigation
		2018 Existing	No Build	2033 Operating Year Build	
Warren Ave					
INTERSECTION					
[1] Detroit Ave & Warren Road					
Eastbound	Left Turn	B (10.9)	B (10.7)	B (10.7)	
	Through	C (27.2)	C (27.3)	C (27.3)	
	Right Turn	C (15.5)	C (15.5)	C (15.5)	
	Approach	B (12.4)	B (12.4)	B (12.4)	
Westbound	Left Turn	B (10.9)	B (10.6)	B (10.6)	
	Through	B (10.9)	B (10.6)	B (10.6)	
	Right Turn	B (10.9)	B (10.6)	B (10.6)	
	Approach	B (10.9)	B (10.6)	B (10.6)	
OVERALL					
B (12.5) B (12.5) B (12.5)					
INTERSECTION					
Detroit Ave					
[2] Detroit Ave & St Clair Ave					
Eastbound	Left Turn	A (4.9)	A (4.8)	A (4.8)	
	Through	A (5.5)	A (5.5)	A (5.5)	
	Right Turn	A (5.5)	A (5.5)	A (5.5)	
	Approach	A (5.0)	A (5.0)	A (5.0)	
Westbound	Left Turn	A (5.7)	A (5.8)	A (5.7)	
	Through	A (5.7)	A (5.7)	A (5.7)	
	Right Turn	A (5.7)	A (5.7)	A (5.7)	
	Approach	A (5.7)	A (5.7)	A (5.7)	
OVERALL					
A (9.5) A (9.8) A (9.8)					
INTERSECTION					
Detroit Ave					
[3] Detroit Ave & Belle Ave					
Northbound	Left Turn	A (9.5)	A (9.8)	A (9.8)	
	Through	A (9.5)	A (9.8)	A (9.8)	
	Right Turn	A (9.5)	A (9.8)	A (9.8)	
	Approach	A (9.5)	A (9.8)	A (9.8)	
Southbound	Left Turn	A (9.5)	A (9.8)	A (9.8)	
	Through	A (9.5)	A (9.8)	A (9.8)	
	Right Turn	A (9.5)	A (9.8)	A (9.8)	
	Approach	A (9.5)	A (9.8)	A (9.8)	
OVERALL					
A (9.5) A (9.8) A (9.8)					
INTERSECTION					
Marlowe Ave					
Eastbound	Left Turn	B (12.5)	B (12.4)	B (12.4)	
	Through	B (12.5)	B (12.4)	B (12.4)	
	Right Turn	B (12.5)	B (12.4)	B (12.4)	
	Approach	B (12.5)	B (12.4)	B (12.4)	
Westbound	Left Turn	B (12.5)	B (12.4)	B (12.4)	
	Through	B (12.5)	B (12.4)	B (12.4)	
	Right Turn	B (12.5)	B (12.4)	B (12.4)	
	Approach	B (12.5)	B (12.4)	B (12.4)	
OVERALL					
B (12.5) B (12.5) B (12.5)					
INTERSECTION					
Marlowe Ave					
Northbound	Left Turn	C (24.1)	C (24.9)	C (24.9)	
	Through	A (1.5)	A (1.5)	A (1.5)	
	Right Turn	B (16.3)	C (22.4)	C (23.1)	
	Approach	C (21.8)	C (21.8)	C (21.8)	
Southbound	Left Turn	A (3.8)	A (3.8)	A (3.8)	
	Through	B (14.4)	C (20.9)	B (14.4)	
	Right Turn	B (14.4)	C (20.9)	B (14.4)	
	Approach	B (14.4)	C (20.9)	B (14.4)	
OVERALL					
B (12.5) B (12.5) B (12.5)					

Table 2C
Level of Service

AM / PM / SAT PEAK	Direction	Approach / Movement	SAT PEAK HOUR (055 / 065)			
			2019 Existing	No Build	Build	Build with Mitigation
2023 Opening Year						
(6) Detroit Ave & Marlowe Ave						
INTERSECTION						
Detroit Ave						
Eastbound	Through	A (5.2)	A (5.3)	A (5.7)		
	Right Turn	A (7.3)	A (7.7)	A (8.4)		
	Left Turn	A (7.3)	A (7.6)	A (8.3)		
	Approach	A (5.0)	A (5.3)	A (6.0)		
Westbound	Through	A (6.8)	A (7.1)	A (7.8)		
	Right Turn	A (6.8)	A (7.1)	A (7.8)		
Marlowe Ave						
Northbound	Through	B (13.9)	B (14.4)	B (14.5)		
	Right Turn	B (13.9)	B (14.4)	B (14.5)		
Southbound	Through	B (13.9)	B (14.2)	B (14.9)		
	Right Turn	B (13.9)	B (14.2)	B (14.9)		
OVERALL						
A (6.0) B (16.2) B (14.9) A (8.4)						
INTERSECTION						
(5) Detroit Ave & Lincoln Ave						
Detroit Ave						
Eastbound	Through	A (8.4)	A (8.4)	A (8.4)		
	Right Turn	A (4.0)	A (4.0)	A (4.0)		
Westbound	Through	A (8.6)	A (8.7)	A (8.7)		
	Right Turn	A (4.0)	A (4.0)	A (4.0)		
Lincoln Ave						
Northbound	Through	C (17.7)	C (18.3)	C (18.2)		
	Right Turn	C (17.7)	C (18.3)	C (18.2)		
Southbound	Through	C (21.4)	C (22.4)	C (22.4)		
	Right Turn	C (21.4)	C (22.4)	C (22.4)		
OVERALL						
A (12.3) A (12.3) C (22.4)						
INTERSECTION						
(6) Franklin Blvd & Belle Ave						
Franklin Blvd						
Eastbound	Through	A (5.4)	A (7.6)	A (8.2)		
	Right Turn	A (5.8)	A (9.6)	B (10.2)		
Westbound	Through	A (5.4)	A (6.9)	A (7.9)		
	Right Turn	A (6.1)	B (10.8)	B (11.2)		
Belle Ave						
Northbound	Through	A (9.4)	B (11.3)	B (10.9)		
	Right Turn	A (9.4)	B (11.3)	B (10.9)		
Southbound	Through	B (10.1)	B (14.0)	B (12.7)		
	Right Turn	B (10.1)	B (14.0)	B (12.7)		
OVERALL						
A (6.5) B (11.0) B (11.0)						

Table 2C
Level of Service

AM / PM / SAT PEAK	Direction	Approach / Movement	SAT PEAK HOUR (055 / 065)			
			2019 Existing	No Build	Build	Build with Mitigation
2023 Opening Year						
(7) Franklin Blvd & Marlowe Ave						
INTERSECTION						
Franklin Blvd						
Eastbound	Through	A (6.0)	A (6.1)	A (6.1)		
	Right Turn	A (4.0)	A (4.0)	A (4.0)		
	Left Turn	A (1.0)	A (1.3)	A (1.3)		
	Approach	A (7.9)	A (8.0)	A (8.0)		
Westbound	Through	A (4.0)	A (4.0)	A (4.0)		
	Right Turn	A (1.3)	A (1.3)	A (1.3)		
Marlowe Ave						
Northbound	Through	C (15.2)	C (17.4)	C (17.6)		
	Right Turn	C (15.2)	C (17.4)	C (17.6)		
Southbound	Through	B (13.9)	C (17.2)	C (16.9)		
	Right Turn	B (13.9)	C (17.2)	C (16.9)		
OVERALL						
B (13.9) C (17.2) C (16.9) A (2.0) A (2.9) A (2.9)						
INTERSECTION						
(8) Belle Ave & Northern Garage Entrance						
Northern Garage Entrance						
Westbound	Through	A (9.8)	B (10.1)			
	Right Turn	A (9.8)	B (10.1)			
Belle Ave						
Northbound	Through	A (4.0)	A (4.0)			
	Right Turn	A (4.0)	A (4.0)			
Southbound	Through	A (7.5)	A (7.5)			
	Right Turn	A (4.0)	A (4.0)			
OVERALL						
A (4.1) A (6.0) A (6.0)						
INTERSECTION						
(9) Belle Ave & Southern Garage Entrance						
Southern Garage Entrance						
Westbound	Through	A (9.8)	A (9.9)			
	Right Turn	A (9.8)	A (9.9)			
Belle Ave						
Northbound	Through	A (4.0)	A (4.0)			
	Right Turn	A (4.0)	A (4.0)			
Southbound	Through	A (7.5)	A (7.5)			
	Right Turn	A (4.0)	A (4.0)			
OVERALL						
A (4.1) A (7.5) A (7.5)						
INTERSECTION						
(10) Marlowe & Northern Garage Entrance						
Northern Garage Entrance						
Eastbound	Through	A (9.7)	A (9.7)			
	Right Turn	A (9.7)	A (9.7)			
Marlowe Ave						
Northbound	Through	A (7.9)	A (7.9)			
	Right Turn	A (1.0)	A (1.0)			
Southbound	Through	A (1.0)	A (1.0)			
	Right Turn	A (1.0)	A (1.0)			
OVERALL						
A (6.9) A (6.9) A (1.0)						
INTERSECTION						
(11) Marlowe & Southern Garage Entrance						
Southern Garage Entrance						
Eastbound	Through	A (8.7)	A (9.0)			
	Right Turn	A (8.7)	A (9.0)			
Marlowe Ave						
Northbound	Through	A (7.3)	A (7.3)			
	Right Turn	A (1.0)	A (1.0)			
Southbound	Through	A (1.0)	A (1.0)			
	Right Turn	A (1.0)	A (1.0)			
OVERALL						
A (6.9) A (2.0) A (2.0)						