CITY OF ST. CHARLES

TWO EAST MAIN STREET
ST. CHARLES, ILLINOIS 60174-1984

COMMUNITY DEVELOPMENT DIVISION PHONE: (630) 377-4443 EMAIL: cd@stcharlesil.gov

ZONING MAP AMENDMENT APPLICATION

CITYVIEW
Project Name: Munhall Glen
Project Number: 2020 -PR- 004
Cityview Project Number: PLMA202000641

Received Date
RECEIVED
St. Charles, IL
AUG 11 2020
CDD
Planning Division

Instructions:

To request a zoning map amendment (rezoning) for a property, complete this application and submit it with all required attachments to the Planning Division.

City staff will review submittals for completeness and for compliance with applicable requirements prior to establishing a Plan Commission public hearing or meeting date.

The information you provide must be complete and accurate. If you have a question please call the Planning Division and we will be happy to assist you.

1. Property Information:	Location: Munhall Ave/Tyler Road,St. Charles	
	Parcel Number (s): 5 parcels: 09-26-376-003, 09-26-376-001, 09-26-376-005, 09-35-126-010 & 09-26-377-004,	
	Proposed PUD Name: Munhall Glen	
2. Applicant Information:	Name: Airhart Construction Corp. - Court Airhart President	Phone: 630-293-3000 ext. 145
	Address	Fax: 630-293-3021
		Email: court@airhartconstruction.com
3. Record Owner Information:	Name: D. Four	Phone: 630-879-3680
	Address: 140 First Street, Batavia, IL 60510	Fax
		Email: austin@bataviaenterprises.com

Zoning and Use Information:

Comprehensive Plan Land Use Designation of the property: Single Family Detached Residential (eastern parcels) and Industrial/Business Park (rear parcel

Current zoning of the property: M-2 Limited Manufacturing

Is the property a designated Landmark or in a Historic District? No

Current use of the property: Residential and farming

Proposed zoning of the property: RS-4 under a PUD

Proposed use of the property: Residential

If the proposed Map Amendment is approved, what improvements or construction are planned? (An accurate site plan may be required to establish that the proposed improvement can meet the minimum zoning requirements)

Full development of the site for 50 residential lots under RS-4 PUD zoning with earth moving, tree removal, road construction, detention, sewer, water, gas, electric, communication and landscape installation ready for home construction.

Attachment Checklist:

If multiple zoning or subdivision applications are being submitted concurrently, do not submit duplicate checklist items or plans. Fee must be paid for each application.

- ❑ **APPLICATION FEE:**

  Application fee in accordance with Appendix B of the Zoning Ordinance. ($500)

- ❑ **REIMBURSEMENT OF FEES AGREEMENT:**

  An original, executed Reimbursement of Fees Agreement and deposit of funds in escrow with the City, as provided by Appendix B of the Zoning Ordinance.

- ❑ **REIMBURSEMENT OF FEES INITIAL DEPOSIT:**

  Deposit of funds in escrow with the City. Required deposit is based on review items (number of applications filed) and the size of the site:

Number of Review Items	Under 5 Acres	5-15 Acres	16-75 Acres	Over 75 Acres
1	$1,000	$2,000	$3,000	$4,000
2 or 3	$2,000	$4,000	$5,000	$7,000
4 or more	$3,000	$5,000	$7,000	$10,000

- ❑ **PROOF OF OWNERSHIP and DISCLOSURE:**

  a) A current title policy report; or

  b) A deed and a current title search.

If the owner is not the applicant, an original letter of authorization from the owner permitting the applicant to act on his/her behalf is required. If the owner or applicant is a Trust, a disclosure of all beneficiaries; if the owner or applicant is a Partnership, a disclosure of all partners; if the owner or applicant is a Corporation, a disclosure of all owners with an interest of at least ten percent (10%).

NOTE: Private covenants and deed restrictions can limit private property rights with respect to the use of land even though the City's Zoning Ordinance may authorize the use or a less restrictive use. We strongly advise that you perform a title search on the property to determine if there any private covenants containing use restrictions or other deed restrictions. As those private covenants and deed restrictions may conflict with the City's Zoning Ordinance, it is further recommended that you consult with an attorney to obtain an opinion with respect to whether your intended use is compatible with those restrictions.

- ❑ **LEGAL DESCRIPTION:** For entire subject property, on 8 ½ x 11 inch paper
- ❑ **PLAT OF SURVEY:**

  A current plat of survey for the Subject Realty showing all existing improvements on the property, prepared by a registered Illinois Professional Land Surveyor.

- ❑ **SITE PLAN:**

  Simple site plan drawn to scale to demonstrate that the property can meet the requirements of the proposed zoning district (parking requirements, setbacks, landscaping, etc.)

- ❑ **FINDINGS OF FACT:**

  Fill out the attached form or submit responses on a separate sheet.

- ❑ **LIST OF PROPERTY OWNERS WITHIN 250 FT.**

  Fill out the attached form or submit on a separate sheet. The form or the list must be signed and notarized.

- ❑ **SOIL AND WATER CONSERVATION DISTRICT APPLICATION:**

  Copy of completed Land Use Opinion application as required by state law, as submitted to The Kane-Dupage Soil and Water Conservation District. http://www.kanedupageswcd.org/

  Submit the application form and fee directly to the Kane-DuPage Soil and Water Conservation District. Provide a copy with this application.

- ❑ **ENDANGERED SPECIES REPORT:**

  Copy of Endangered Species Consultation Agency Action to be filed with the Illinois Department of Natural Resources. http://dnrecocat.state.il.us/ecopublic/

  Fill out the online form, print the report and submit with this application.

I (we) certify that this application and the documents submitted with it are true and correct to the best of my (our) knowledge and belief.

Record Owner — Date: 8/11/2020

Applicant or Authorized Agent — Date: 8/10/2020

Legal Description

PARCEL 1:

THAT PART OF THE SOUTHWEST QUARTER OF SECTION 26, TOWNSHIP 40 NORTH, RANGE 8, EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHEAST CORNER OF SAID SOUTHWEST QUARTER; THENCE SOUTH 88 DEGREES 50 MINUTES 28 SECONDS WEST ALONG THE SOUTH LINE OF SAID SOUTH WEST QUARTER, 215.25 FEET TO THE CENTER LINE OF TYLER ROAD; THENCE NORTH 08 DEGREES 41 MINUTES 50 SECONDS EAST ALONG SAID CENTER LINE, 73.7 FEET FOR A POINT OF BEGINNING; THENCE SOUTH 89 DEGREES 23 MINUTES 00 SECONDS WEST 222.0 FEET; THENCE NORTH 08 DEGREES 41 MINUTES 50 SECONDS EAST PARALLEL WITH THE CENTER LINE OF SAID TYLER ROAD, 132.77 FEET; THENCE NORTH 85 DEGREES 33 MINUTES 00 SECONDS EAST 224.97 FEET TO THE CENTER LINE OF SAID TYLER ROAD; THENCE SOUTH 08 DEGREES 41 MINUTES 50 SECONDS WEST ALONG SAID CENTER LINE, 148.01 FEET TO THE POINT OF BEGINNING, IN THE CITY OF SAINT CHARLES, KANE COUNTY, ILLINOIS.

PARCEL 2:

THAT PART OF THE SOUTHWEST QUARTER OF SECTION 26, TOWNSHIP 40 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS: COMMENCING ON THE SOUTH LINE OF THE RIGHT OF WAY OF THE CHICAGO AND GREAT WESTERN RAILROAD COMPANY AT A POINT 615.9 FEET WESTERLY FROM THE CENTER LINE OF A NORTH AND SOUTH ROAD IN SAID SOUTHWEST QUARTER, KNOWN AS TYLER'S ROAD, MEASURED ALONG THE SOUTHERLY LINE OF SAID RAILROAD RIGHT OF WAY; THENCE SOUTH 11 DEGREES 16 MINUTES EAST 895.5 FEET TO THE SOUTH LINE OF SAID SOUTHWEST QUARTER FOR A POINT OF BEGINNING; THENCE NORTH 11 DEGREES 16 MINUTES WEST 895.5 FEET TO THE SOUTH LINE OF SAID RAILROAD RIGHT OF WAY; THENCE WESTERLY ALONG THE SOUTHERLY LINE OF SAID RIGHT OF WAY 482 FEET; THENCE SOUTHERLY 914.3 FEET TO A POINT ON THE SOUTH LINE OF SAID SOUTHWEST QUARTER 1059.9 FEET WEST OF THE CENTER LINE OF SAID TYLER ROAD; THENCE EAST ALONG SAID SOUTH LINE 669 FEET TO THE POINT OF BEGINNING, IN THE CITY OF SAINT CHARLES, KANE COUNTY, ILLINOIS.

PARCEL 3:

THAT PART OF THE SOUTHWEST QUARTER OF SECTION 26, TOWNSHIP 40 NORTH, RANGE 8, EAST OF THE THIRD PRINCIPAL MERIDIAN DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHEAST CORNER OF SAID QUARTER; THENCE SOUTH 88 DEGREES 50 MINUTES 28 SECONDS WEST ALONG THE SOUTH LINE OF SAID QUARTER 215.25 FEET TO THE ORIGINAL CENTER LINE OF MUNHALL AVENUE (FORMERLY TYLER ROAD); THENCE NORTH 8 DEGREES 41 MINUTES 50 SECONDS EAST ALONG SAID ORIGINAL CENTER LINE 221.71 FEET FOR A POINT OF BEGINNING; THENCE SOUTH 8 DEGREES 41 MINUTES 50 SECONDS WEST ALONG SAID ORIGINAL CENTER LINE 95.20 FEET; THENCE NORTHEASTERLY ALONG A CURVE TO THE RIGHT HAVING A RADIUS OF 233.0 FEET TANGENT TO A LINE DRAWN NORTH 39 DEGREES 33 MINUTES 44 SECONDS EAST FROM THE LAST DESCRIBED POINT 89.15 FEET TO A LINE

DRAWN CONCENTRIC WITH AND 40.0 FEET SOUTHWESTERLY OF THE PRESENT CENTER LINE OF TYLER ROAD; THENCE NORTHWESTERLY ALONG SAID CONCENTRIC LINE, BEING A CURVE TO THE RIGHT HAVE A RADIUS OF 1081.0 FEET; 43.34 FEET TO A LINE DRAWN NORTH 85 DEGREES 33 MINUTES 0 SECONDS EAST FROM THE POINT OF BEGINNING; THENCE SOUTH 85 DEGREES 33 MINUTES 0 SECONDS WEST 39.68 FEET TO THE POINT OF BEGINNING, IN THE CITY OF SAINT CHARLES, KANE COUNTY, ILLINOIS.

PARCEL 4:

THAT PART OF THE SOUTHWEST QUARTER OF SECTION 26 AND PART OF THE NORTHWEST QUARTER OF SECTION 35, TOWNSHIP 40 NORTH, RANGE 8, EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHEAST CORNER OF SAID SOUTHWEST QUARTER; THENCE SOUTH 88 DEGREES 50 MINUTES 28 SECONDS WEST ALONG THE SOUTH LINE OF SAID SOUTHWEST QUARTER, 215.25 FEET TO THE CENTER LINE OF TYLER ROAD FOR THE POINT OF BEGINNING; THENCE NORTH 08 DEGREES 41 MINUTES 50 SECONDS EAST ALONG SAID CENTER LINE, 73.7 FEET; THENCE SOUTH 89 DEGREES 23 MINUTES 00 SECONDS WEST 222.0 FEET; THENCE NORTH 08 DEGREES 41 MINUTES 50 SECONDS EAST PARALLEL WITH THE CENTER LINE OF SAID TYLER ROAD, 132.77 FEET; THENCE SOUTH 85 DEGREES 33 MINUTES 00 SECONDS WEST 237.82 FEET; THENCE SOUTH 10 DEGREES 39 MINUTES 00 SECONDS EAST 194.53 FEET TO THE NORTH EAST CORNER OF PHASE NO. 1 CAMBRIDGE, SAINT CHARLES, KANE COUNTY, ILLINOIS; THENCE SOUTH 17 DEGREES 28 MINUTES 03 SECONDS EAST ALONG A NORTHEASTERLY LINE OF SAID PHASE NO. 1, 253.08 FEET; THENCE NORTH 72 DEGREES 44 MINUTES 11 SECONDS EAST 305.44 FEET TO THE CENTER LINE OF SAID TYLER ROAD; THENCE NORTHERLY ALONG SAID CENTER LINE 160.54 FEET TO THE POINT OF BEGINNING IN THE CITY OF SAINT CHARLES, KANE COUNTY, ILLINOIS.

PARCEL 5:

THAT PART OF THE SOUTHWEST QUARTER OF SECTION 26, TOWNSHIP 40 NORTH, RANGE 8, EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHEAST CORNER OF SAID QUARTER; THENCE SOUTH 88 DEGREES 50 MINUTES 28 SECONDS WEST ALONG THE SOUTH LINE OF SAID QUARTER 215.25 FEET TO THE ORIGINAL CENTER LINE OF MUNHALL AVENUE (FORMERLY TYLER ROAD); THENCE NORTH 8 DEGREES 41 MINUTES 50 SECONDS EAST ALONG SAID ORIGINAL CENTER LINE 221.71 FEET FOR A POINT OF BEGINNING; THENCE SOUTH 08 DEGREES 41 MINUTES 50 SECONDS WEST ALONG SAID ORIGINAL CENTER LINE 95.20 FEET; THENCE SOUTHWESTERLY ALONG A CURVE TO THE LEFT HAVING A RADIUS OF 233.00 FEET TANGENT TO A LINE DRAWN SOUTH 39 DEGREES 33 MINUTES 44 SECONDS WEST FROM THE LAST DESCRIBED POINT 52.64 FEET; THENCE NORTH 08 DEGREES 48 MINUTES 33 SECONDS EAST 138.04 FEET TO A LINE DRAWN SOUTH 85 DEGREES 33 MINUTES 00 SECONDS WEST FROM THE POINT OF BEGINNING; THENCE NORTH 85 DEGREES 33 MINUTES 00 SECONDS EAST 22.0 FEET TO THE POINT OF BEGINNING, IN THE CITY OF SAINT CHARLES, KANE COUNTY, ILLINOIS.

FINDINGS OF FACT – MAP AMENDMENT

The St. Charles Zoning Ordinance requires the Plan Commission to consider factors listed below in making a recommendation to the City Council.

As an applicant, the "burden of proof" is on you to show why the proposed zoning is more appropriate than the existing zoning. Therefore, you need to "make your case" by explaining how the following factors support your proposal. If a factor does not apply to the property in question, indicate "not applicable" and explain why it does not apply.

Munhall Glen	8/10/2020
Project Name or Address	*Date*

From the Charles Zoning Ordinance, Section 17.04.320.D:
In making its recommendation to grant or deny an application for a Zoning Map Amendment, including changes to Zoning District and Overlay boundaries, the Plan Commission shall consider:

1. The existing uses and zoning of nearby property. *(Relate the proposed land use and zoning to the land use and zoning of other properties in the area)*

   The property is currently zoned a mix of RS-4 and M-2. The property to the south is zoned RS-4 and so this property melds well to the existing residential. The property to the east is zoned M-2 and used as office space. The building have a residential feel and will work well with this property. The properties to the north and west are M-2 and St. Charles owned properties. The zoning change to this property will be a positive for this area and act well as a transition between the residential to the south and more commercial uses to the north.

2. The extent to which property values are diminished by the existing zoning restrictions. *(Compare the value of the subject property and nearby properties under the current zoning to their potential value under the proposed zoning.)*

   The highest and best use of this property is residential under the RS-4 classification with a PUD. This property will fill a niche of unmet need of first floor master bedroom housing and is a much better use than the current M-2 zoning. The M-2 Zoning in this location is unneeded due to the properties to the east of this property toward the DuPage Airport and the route 64 corridor. The fact that this property has not been developed under M-2 and left as a field while every property around it has been developed is a testament to that fact. This property has been underperforming on the tax rolls as farm land and one residential property. The change in zoning will be a great benefit to the tax rolls and improve its value to the City of St. Charles.

3. The extent to which the reduction of the property's value under the existing zoning restrictions promotes the health, safety, morals or general welfare of the public. *(If the existing zoning decreases the value of the subject realty, does it also produce any perceptible public benefits?*

   This is not applicable. The current zoning has no benefit to the health, safety, morals or general welfare of the public. In fact, the change in zoning will be a great benefit to the health, safety, morals and general welfare of the public by meeting housing needs and creating a much more orderly procession of development.

4. The suitability of the property for the purposes for which it is presently zoned, i.e. the feasibility of developing the property for one or more of the uses permitted under the existing zoning classification. *(Can the subject property reasonably be used for any of the uses currently permitted? Physical and market conditions may be considered.)*

The property is not suitable for the purpose for which it is presently zoned. The traffic patterns into residential area make commercial traffic an issue as well as the location being into a residential neighborhood. The fact that it has sat for so long underutilized while every property around it many, many years ago had been developed is testament to the fact that the value of the property is not M-2. There are many much better options to the east for commercial usages and the best use of this property is rezoning to RS-4 under a PUD.

5. The length of time that the property has been vacant, as presently zoned, considered in the context of the land development in the area where the property is located. *(If a property has been vacant longer than other similar properties in the area, it may be an indicator that the existing zoning is inappropriate.)*

This property is the last property in this area for development. It has been many, many years since all the properties around it have been developed and this property has sat underutilized. Due to the inadequacies for development as M-2 is the reason it has been left behind as other properties have been developed. The change in zoning to RS-4 PUD residential usage makes much more sense in this area.

6. The evidence, or lack of evidence, of the community's need for the uses permitted under the proposed district. *(Development trends, market forces, and the Comprehensive Plan may be considered.)*

The rezoning of the property to RS-4 PUD will meet a substantial need of single level and first floor master bedroom homes in St. Charles. The demographics show that this is a substantial void in the market. The change in zoning allowing housing to be built on this property will allow those individuals who need first floor master bedrooms in St. Charles to stay in St. Charles rather than moving away from their community. It will create better mix of housing in St. Charles meeting the needs of more residents and creating a greater mix of housing in the community.

7. The consistency of the proposed amendment with the City's Comprehensive Plan.

The change in zoning to RS-4 PUD conforms to the purposes and intent of the Comprehensive Plan by promoting development within the current boundaries of the City. It focuses development on an underutilized property thereby enhancing the tax base, utilizing surrounding infrastructure instead of needlessly extending infrastructure past undeveloped properties. It provides housing close to shopping districts and the downtown areas as well as promoting development in an area with significant road and transportation corridors promoting orderly and efficient development.

8. Whether the proposed amendment corrects an error or omission in the Zoning Map.

Not Applicable – There is not an error or omission in the Zoning Map.

9. The extent to which the proposed amendment creates nonconformities. *(Generally it is not appropriate to rezone a property unless it can comply with the requirements of the new zoning.)*

The rezoning of this property will not create any nonconformities.

10. The trend of development, if any, in the general area of the property in question. *(New development, redevelopment, changes in use, or other changes in the area may help to justify a change in zoning.)*

The trend in development for M-2 is to be in better transportation corridors specializing in ease of commercial traffic flow for large trucks. This property does not meet that need. The need is for residential in this area and this change in zoning will allow housing for those looking for single level living or first floor master bedrooms. Changing to RS-4 PUD allows for housing and will be a much better use for the property.

Plan Commission recommendation shall be based upon the preponderance of the evidence presented and the Commission shall not be required to find each Finding of Fact in the affirmative to recommend approval of an application for Map Amendment.

CITY OF ST. CHARLES

TWO EAST MAIN STREET
ST. CHARLES, ILLINOIS 60174-1984

COMMUNITY DEVELOPMENT DIVISION PHONE: (630) 377-4443 EMAIL: cd@stcharlesil.gov

SPECIAL USE APPLICATION

(To request a Special Use or Amendment, or a Special Use for PUD or Amendment)

For City Use
Project Name: Munhall Glen
Project Number: 2020 -PR- 004
Cityview Project Number: PLSU2020 00034

Received Date
RECEIVED
St. Charles, IL
JUL 30 2020
CDD
Planning Division

To request a Special Use for a property, or to request to amend an existing Special Use Ordinance for a property, complete this application and submit it with all required attachments to the Planning Division.

City staff will review submittals for completeness and for compliance with applicable requirements prior to establishing a public hearing date for an application.

The information you provide must be complete and accurate. If you have a question please call the Planning Division and we will be happy to assist you.

1. Property Information:	Location: Munhall Ave./Tyler Road, St. Charles House on property has address 872 Munhall Ave	
	Parcel Number (s): 5 parcels: 09-26-377-004, 09-26-376-003, 09-26-376-005 09-35-126-010 & 09-26-376-001	
	Proposed Name: Munhall Glen	
2. Applicant Information:	Name Airhart Construction Corp - Court Airhart President	Phone 630-293-3000 ext. 145
	Address 500 E. Roosevelt Road West Chicago, IL 60185	Fax 630-293-3021
		Email court@airhartconstruction.com
3. Record Owner Information:	Name D. Four LLC	Phone 630-879-3680
	Address 140 First Street Batavia, IL 60510	Fax
		Email austin@bataviaenterprises.com

Please check the type of application:

☒ **Special Use for Planned Unit Development - PUD Name:** Munhall Glen

- ☐ New PUD
- ☐ Amendment to existing PUD- Ordinance #: _____
- ☒ PUD Preliminary Plan filed concurrently

☐ **Other Special Use (from list in the Zoning Ordinance):** _____

- ☐ Newly established Special Use
- ☐ Amendment to an existing Special Use Ordinance #: _____

Information Regarding Special Use:

Comprehensive Plan designation of the property: Industrial / Business Park + Single-Family Detached

Is the property a designated Landmark or in a Historic District? NO

What is the property's current zoning? RS-4 & M2

What is the property currently used for? Residential and farming

If the proposed Special Use is approved, what improvements or construction are planned?

51 new single family homes along with construction of detention areas, streets, sidewalks, sanitary sewer, water, and storm sewer

For Special Use Amendments only:

Why is the proposed change necessary?

What are the proposed amendments? (Attach proposed language if necessary)

Note for existing buildings:

If your project involves using an existing building, whether you plan to alter it or not, please contact the St. Charles Fire Department (630-377-4458) and the Building and Code Enforcement Division (630-377-4406) for information on building, life safety and other code requirements. Depending on the proposed use, size of structure and type of construction, these requirements can result in substantial costs.

Attachment Checklist:

If multiple zoning or subdivision applications will be submitted concurrently, do not submit duplicate checklist items or plans. Fee must be paid for each application.

☑ **APPLICATION FEE:**

Application fee in accordance with Appendix B of the Zoning Ordinance. (Special Use for PUD $1,000; all other Special Use requests $750)

☑ **REIMBURSEMENT OF FEES AGREEMENT:**

An original, executed Reimbursement of Fees Agreement and deposit of funds in escrow with the City, as provided by Appendix B of the Zoning Ordinance.

☑ **REIMBURSEMENT OF FEES INITIAL DEPOSIT:**

Deposit of funds in escrow with the City. Required deposit is based on review items (number of applications filed) and the size of the site:

Number of Review Items	Under 5 Acres	5-15 Acres	16-75 Acres	Over 75 Acres
1	$1,000	$2,000	$3,000	$4,000
2 or 3	$2,000	$4,000	$5,000	$7,000
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☑ **PROOF OF OWNERSHIP and DISCLOSURE:**

a) A current title policy report; or

b) A deed and a current title search.

If the owner is not the applicant, an original letter of authorization from the owner permitting the applicant to act on his/her behalf is required. If the owner or applicant is a Trust, a disclosure of all beneficiaries; if the owner or applicant is a Partnership, a disclosure of all partners; if the owner or applicant is a Corporation, a disclosure of all owners with an interest of at least ten percent (10%).

NOTE: Private covenants and deed restrictions can limit private property rights with respect to the use of land even though the City's Zoning Ordinance may authorize the use or a less restrictive use. We strongly advise that you perform a title search on the property to determine if there any private covenants containing use restrictions or other deed restrictions. As those private covenants and deed restrictions may conflict with the City's Zoning Ordinance, it is further recommended that you consult with an attorney to obtain an opinion with respect to whether your intended use is compatible with those restrictions.

☑ **LEGAL DESCRIPTION:** For entire subject property, on 8 1/2 x 11 inch paper

☑ **PLAT OF SURVEY:**

A current plat of survey for the Subject Realty showing all existing improvements on the property, prepared by a registered Illinois Professional Land Surveyor.

☑ **FINDINGS OF FACT:**

Fill out the attached forms or submit responses on a separate sheet (*Submit "Criteria for PUD" for any PUD application; "Findings for Special Use" for all other Special Use applications.)*

☑ **LIST OF PROPERTY OWNERS WITHIN 250 FT.:**

Fill out the attached form or submit on a separate sheet. The form or the list must be signed and notarized.

☑ **SOIL AND WATER CONSERVATION DISTRICT APPLICATION:**

Copy of completed Land Use Opinion application as required by state law, as submitted to The Kane-Dupage Soil and Water Conservation District. http://www.kanedupageswcd.org/

Submit the application form and fee directly to the Kane-DuPage Soil and Water Conservation District. Provide a copy with this application.

☑ **ENDANGERED SPECIES REPORT:**

Copy of Endangered Species Consultation Agency Action to be filed with the Illinois Department of Natural Resources. http://dnr.illinois.gov/EcoPublic/

Fill out the online form, print the report and submit with this application.

☑ **TRAFFIC STUDY:** If requested by the Director of Community Development.

Staff will advise you whether a traffic study is recommended based on the project. Regardless, the Plan Commission or City Council may request a traffic study as a part of the review process.

☑ **PLANS:**

All required plans shall be drawn on sheets no larger than 24" x 36", unless the Director of Community Development permits a larger size when necessary to show a more comprehensive view of the project. All required plans shall show north arrow and scale, and shall be drawn at the same scale (except that a different scale may be used to show details or specific features). All plans shall include the name of the project, developer or owner of site, person or firm preparing the plan, and the date of plan preparation and all revisions.

Copies of Plans:

Initial Submittal - Ten (10) full size copies, Three (3) 11" by 17", and a PDF electronic file (On a CD-ROM or may be emailed to the Project Manager). For subsequent submittals, please contact the Project Manager to determine how many copies are required.

☑ **SITE PLAN (Note: For a Special Use for PUD, submit PUD Preliminary Plan Application in lieu of Site Plan)**

A plan or plans showing the following information:

1. Accurate boundary lines with dimensions
2. Streets on and adjacent to the tract: Name and right-of-way width
3. Location, size, shape, height, and use of existing and proposed structures
4. Location and description of streets, sidewalks, and fences
5. Surrounding land uses
6. Date, north point, and scale
7. Ground elevation contour lines
8. Building/use setback lines
9. Location of any significant natural features
10. Location of any 100-year recurrence interval floodplain and floodway boundaries
11. Location and classification of wetland areas as delineated in the National Wetlands Inventory
12. Existing zoning classification of property
13. Existing and proposed land use
14. Area of property in square feet and acres
15. Proposed off-street parking and loading areas
16. Number of parking spaces provided, and number required by ordinance
17. Angle of parking spaces
18. Parking space dimensions and aisle widths
19. Driveway radii at the street curb line
20. Width of driveways at sidewalk and street curb line

21. Provision of handicapped parking spaces
22. Dimensions of handicapped parking spaces
23. Depressed ramps available to handicapped parking spaces
24. Location, dimensions and elevations of freestanding signs
25. Location and elevations of trash enclosures
26. Provision for required screening, if applicable
27. Exterior lighting plans showing:
    a. Location, height, intensity and fixture type of all proposed exterior lighting
    b. Photometric information pertaining to locations of proposed lighting fixtures

I (we) certify that this application and the documents submitted with it are true and correct to the best of my (our) knowledge and belief.

Record Owner — Date: 07/14/2020

Applicant or Authorized Agent — Date: 7/14/2020

July 10th, 2020

Russell Colby
Assistant Director
Community & Economic Development
City of St. Charles
2 E. Main Street
St. Charles, IL 60174

Re: Special Use Application – Munhall Glen

Dear Russell,

I am the managing member of DKIDS, LLC, now known as D. Four, LLC. We own the property listed below. I give my permission to Court Airhart, Airhart Construction Corp. and members of their team to act on our behalf and file the documents, speak at hearings, or whatever is needed to move the development of this property forward. The property is a combination of 5 properties with PINS:

PIN #: 09-26-376-001 – 11.96 acres
09-26-376-003 – 0.66 acres
09-26-376-004 – 0.12 acres
09-26-376-005 – 1.25 acres
09-35-126-010 – 1.47 acres

Please contact me if you have any further questions at (630) 879-3680.

Sincerely,

Austin Dempsey
Manager- D. Four, LLC

OWNERSHIP DISCLOSURE FORM
LIMITED LIABILITY COMPANY (L.L.C.)

STATE OF ILLINOIS)
) SS.
KANE COUNTY)

I, Austin M. Dempsey, being first duly sworn on oath depose and say that I am Manager of D Four LLC, an Illinois Limited Liability Company (L.L.C.), and that the following persons are all of the members of the said L.L.C.:

Austin Dempsey	Brian Dempsey
Brent Dempsey	Ashley Hicks

By: _____, Manager

Subscribed and Sworn before me this 2nd day of April, 2020.

KAY M LEFEVER
OFFICIAL SEAL
Notary Public, State of Illinois
My Commission Expires
September 29, 2022

Kay M Lefever
Notary Public

CRITERIA FOR PLANNED UNIT DEVELOPMENTS (PUDS)

For Special Use for PUD or PUD Amendment applications.

The St. Charles Zoning Ordinance requires the Plan Commission to consider the criteria listed below in making a recommendation to the City Council on whether a proposed Planned Unit Development is in the public interest.

As the applicant, the "burden of proof" is on you to provide information that addresses the criteria below in order to demonstrate that the project is in the public interest.

(You may utilize this form or provide the responses on another sheet.)

Munhall Glen — *PUD Name*

6/24/2020 — *Date*

From the St. Charles Zoning Ordinance, Section 17.04.410.3:
The Plan Commission shall not favorably recommend, and the City Council shall not approve, a Special Use for a PUD or an amendment to a Special Use for a PUD unless they each make findings of fact based on the application and the evidence presented at the public hearing that the PUD is in the public interest, based on the following criteria:

i. The proposed PUD advances one or more of the purposes of the Planned Unit Development procedure stated in Section 17.04.400.A:

1. To promote a creative approach to site improvements and building design that results in a distinctive, attractive development that has a strong sense of place, yet becomes an integral part of the community.
2. To create places oriented to the pedestrian that promote physical activity and social interaction, including but not limited to walkable neighborhoods, usable open space and recreational facilities for the enjoyment of all.
3. To encourage a harmonious mix of land uses and a variety of housing types and prices.
4. To preserve native vegetation, topographic and geological features, and environmentally sensitive areas.
5. To promote the economical development and efficient use of land, utilities, street improvements, drainage facilities, structures and other facilities.
6. To encourage redevelopment of sites containing obsolete or inappropriate buildings or uses.
7. To encourage a collaborative process among developers, neighboring property owners and residents, governmental bodies and the community

The proposed PUD promotes a creative solution to an unmet growing housing need of single story and first floor master bedroom housing. This housing will allow for longtime community residents, business people and leaders in St. Charles to remain in St. Charles as their housing needs change. The PUD zoning promotes creative housing and provides attractive streetscapes that incentivizes porches and pedestrian friendly neighborhoods. It promotes social interaction by providing sidewalks, paths, neighborhood connection areas as well as connection to a potential linear park to the north of the property. The PUD provides a harmonious usage of the property by changing a potential heavy commercial use of the property to residential use more in scale with the residential use to the south and the less intense commercial use to the east. The development of this property will promote higher levels of landscaping and higher quality trees than currently exist on the property as uncontrolled Buckthorn,

Honeysuckle, Mulberry, Box Elder, etc. and other invasive landscaping is allowed to multiply. The installation of detention areas with natural landscaping will enhance water quality and native plants. Munhall Glen will be a benefit to future residents, the surrounding neighbors, local businesses and the City of St. Charles.

ii. The proposed PUD and PUD Preliminary Plans conform to the requirements of the underlying zoning district or districts in which the PUD is located and to the applicable Design Review Standards contained in Chapter 17.06, except where:

A. Conforming to the requirements would inhibit creative design that serves community goals, or

B. Conforming to the requirements would be impractical and the proposed PUD will provide benefits that outweigh those that would have been realized by conforming to the applicable requirements.

Factors listed in Section 17.04.400.B shall be used to justify the relief from requirements:

1. The PUD will provide community amenities beyond those required by ordinance, such as recreational facilities, public plazas, gardens, public areas, pedestrian and transit facilities.
2. The PUD will preserve open space, natural beauty and critical environmental areas in excess of what is required by ordinance or other regulation.
3. The PUD will provide superior landscaping, buffering or screening.
4. The buildings within the PUD offer high quality architectural design.
5. The PUD provides for energy efficient building and site design.
6. The PUD provides for the use of innovative stormwater management techniques.
7. The PUD provides accessible dwelling units in numbers or with features beyond what is required by the Americans with Disabilities Act (ADA) or other applicable codes.
8. The PUD provides affordable dwelling units in conformance with, or in excess of, City policies and ordinances.
9. The PUD preserves historic buildings, sites or neighborhoods.

The proposed RS4-PUD and PUD Preliminary Plans provide a significantly more harmonious usage of the property than the current more intrusive usage and negative impact on the surrounding properties of the existing M-2 (industrial usage) zoning classification currently in place. By allowing for the PUD the property will be able to meet a significant housing need in the community of single level and first floor master bedroom housing. This housing would not be allowed in the M-2 zoning classification. By changing the zoning and allowing the PUD, storm water facilities, open space, and sidewalks and paths will allow for residents to enjoy the open space and property as well as provide for a pedestrian connection to the potential linear park to the north. The planned landscaping will be a significant improvement to the invasive species currently on the property and the trees planted as a part of the development will be a significant improvement. Due to the size and shape of the property by downzoning the property to an RS4-PUD it allows for implementation of a variety of lot sizes which provides for varied architecture, improved rear yard setbacks and a unique streetscape that incentivizes porches and neighbor interaction than the current M-2 zoning classification allows. The development will provide stormwater facilities with native species enhancing the water quality where currently no storm water facilities exist. The RS4-PUD enhance the opportunity for single level living while not infringing on the size of the homes for those requiring single level living. The PUD promotes quality residential development and provides good transitional zoning to benefit those properties that currently surround it. The development will be a benefit to the City of St. Charles housing and significant increase in tax base.

iii. The proposed PUD conforms with the standards applicable to Special Uses (section 17.04.330.C.2):

A. Public Convenience: The Special Use will serve the public convenience at the proposed location.

The Special Use will serve the public convenience at Munhall Glen by filling a housing void in the market of single story and first floor master bedroom homes. This void in the market is causing those needing this type of housing to look outside of St. Charles even though they have been long time residents. In addition, by providing housing in this location it helps support area businesses and supports good planning putting residential housing close to both public and private amenities.

B. Sufficient Infrastructure: That adequate utilities, access roads, drainage and/or necessary facilities have been, or are being, provided.

There is sufficient infrastructure and utilities in this area to support the development. There is a major sanitary sewer main on the north end of the property installed for the future development of this property. The utility infrastructure installed on this property will help with the connectivity of utilities, specifically water main, which will help "loop" the water system in the area and provide for better servicing and water circulation. The installation of storm water controls and Best Management Practices on this property will provide storm water detention where no storm water controls currently exist. The traffic pattern will provide excellent vehicular movement because Munhall Glen exits onto a Major Collector, Tyler Road, which links to Principal Arterials of E. Main Street and Kirk Road providing for safe and efficient vehicular movement.

C. Effect on Nearby Property: That the Special Use will not be injurious to the use and enjoyment of other property in the immediate vicinity for the purposes already permitted, nor substantially diminish or impair property values within the neighborhood.

Munhall Glen will not be injurious to the use and enjoyment of surrounding properties and it will act as an excellent transition from the commercial to the east and west and the residential to the south. By approving this Special Use, the downzoning of this property from M-2, Limited Manufacturing to RS4-PUD will ensure a more harmonious residential usage of the property and ensure Munhall Ave. stays primarily a residential street rather than negatively impacted by commercial heavy trucking transportation uses.

D. Effect on Development of Surrounding Property: That the establishment of the Special Use will not impede the normal and orderly development and improvement of the surrounding property for uses permitted in the district.

The establishment of the Special Use will not impede the normal and orderly development and improvement of the surrounding properties due to the fact that all surrounding properties are currently developed. As the last piece of property in this area for development the approval of the special use will in fact promote a harmonious interconnecting and buffer for the surrounding properties.

E. Effect on General Welfare: That the establishment, maintenance or operation of the Special Use will not be detrimental to or endanger the public health, safety, comfort or general welfare.

The approval of the Special Use will not be detrimental to or endanger the public health, safety, comfort or general welfare. As planned, the properties development will provide buffering between different property usages, will extend and improve municipal infrastructure, and will provide

housing needed in the city of St. Charles.

F. Conformance with Codes: That the proposed Special Use conforms to all applicable provisions of the St. Charles Municipal Code and meets or exceeds all applicable provisions of this Title, except as may be varied pursuant to a Special Use for Planned Unit Development.

The proposed Special Use conforms to all applicable provisions of the St. Charles Municipal Code and meets or exceeds all applicable provisions of this Title, except as varied pursuant to the Special Use for the Planned Unit Development. The Special Use and PUD zoning allows for a more inventive design, the average lot sizes are significantly larger than the minimum requirements, and the housing will be constructed at or above current codes and energy requirements. The Special Use and minor changes to the zoning requirements allows for an inventive solution for meeting a needed housing niche within the St. Charles housing stock.

iv. The proposed PUD will be beneficial to the physical development, diversity, tax base and economic well-being of the City.

The proposed PUD will be beneficial to the physical development, diversity, tax base and economic well-being of the City. The development of this property will improve connections of the water and sewer systems and provide storm water management facilities where none currently exist. It will provide a diversity of housing by providing single story and first floor master bedroom housing providing solutions for current St. Charles residents whose housing needs have changed over time and want to stay in the City due to civic, cultural, social and religious activities that they have long time connections. The PUD will substantially increase the tax base for the City, School District, Park District, etc. over the current use in perpetuity benefiting many taxing bodies. In addition, it provides housing close to many commercial districts benefiting many surrounding businesses and the economic wellbeing of the City

v. The proposed PUD conforms to the purposes and intent of the Comprehensive Plan.

The proposed PUD conforms to the purposes and intent of the Comprehensive Plan by promoting development within the current boundaries of the City. It focuses development on an underutilized property thereby enhancing the tax base, utilizing surrounding infrastructure instead of needlessly extending infrastructure past undeveloped properties. It provides housing close to shopping districts and the downtown area as well as promoting development in an area with significant road and transportation corridors promoting orderly and efficient development.

CITY OF ST. CHARLES

TWO EAST MAIN STREET
ST. CHARLES, ILLINOIS 60174-1984

COMMUNITY DEVELOPMENT DIVISION PHONE: (630) 377-4443 EMAIL: cd@stcharlesil.gov

PUD PRELIMINARY PLAN APPLICATION

For City Use
Project Name: Munhall Glen
Project Number: 2020-PR-004
Cityview Project Number: PL PUD20200036

Received Date
RECEIVED
St. Charles, IL
JUL 30 2020
CDD
Planning Division

To request approval of a PUD Preliminary Plan, complete this application and submit it with all required plans and attachments to the Planning Division. Normally this application will track with an application for Special Use for a PUD, unless a Special Use for a PUD has previously been granted and no amendment is necessary.

When the application is complete staff will distribute the plans to other City departments for review. When the staff has determined that the plans are ready for Plan Commission review, we will place the PUD Preliminary Plan on a Plan Commission meeting agenda.

The information you provide must be complete and accurate. If you have a question please call the Planning Division and we will be happy to assist you.

1. Property Information:	Location: Munhall Ave./Tyler Road, St. Charles House on property has address 872 Munhall Ave	
	Parcel Number (s): 5 parcels: 09-26-377-004, 09-26-376-003, 09-26-376-005 09-35-126-010 & 09-26-376-001	
	Proposed PUD Name: Munhall Glen	
2. Applicant Information:	Name Airhart Construction Corp. - Court Airhart President	Phone 630-293-3000 ext. 145
	Address 500 E. Roosevelt Road West Chicago, IL 60185	Fax 630-293-3021
		Email court@airhartconstruction.com
3. Record Owner Information:	Name D. Four	Phone 630-879-3680
	Address 140 First Street Batavia, IL 60510	Fax
		Email austin@bataviaenterprises.com

Please check the type of application:

- ☒ **New proposed PUD- Planned Unit Development** (Special Use Application filed concurrently)
- ☐ **Existing PUD-Planned Unit Development**
  - ☐ PUD Amendment Required for proposed plan (Special Use Application filed concurrently)

Subdivision of land:

- ☐ Proposed lot has already been platted and a new subdivision is not required.
- ☐ New subdivision of property required:
  - ☐ Final Plat of Subdivision Application filed concurrently
  - ☐ Final Plat of Subdivision Application to be filed later

Attachment Checklist:

If multiple zoning or subdivision applications are being submitted concurrently, do not submit duplicate checklist items or plans. Fee must be paid for each application.

Note: The City Staff, Plan Commission, or City Council, may request other pertinent information during the review process.

☑ **APPLICATION FEE:** Application fee in accordance with Appendix B of the Zoning Ordinance. ($500)

☑ **REIMBURSEMENT OF FEES AGREEMENT:**

An original, executed Reimbursement of Fees Agreement and deposit of funds in escrow with the City, as provided by Appendix B of the Zoning Ordinance.

☐ **REIMBURSEMENT OF FEES INITIAL DEPOSIT:**

Deposit of funds in escrow with the City. Required deposit is based on review items (number of applications filed) and the size of the site:

Number of Review Items	Under 5 Acres	5-15 Acres	16-75 Acres	Over 75 Acres
1	$1,000	$2,000	$3,000	$4,000
2 or 3	$2,000	$4,000	$5,000	$7,000
4 or more	$3,000	$5,000	$7,000	$10,000

☑ **PROOF OF OWNERSHIP and DISCLOSURE:**

a) a current title policy report; or

b) a deed and a current title search.

If the owner is not the applicant, an original letter of authorization from the owner permitting the applicant to act on his/her behalf is required. If the owner or applicant is a Trust, a disclosure of all beneficiaries; if the owner or applicant is a Partnership, a disclosure of all partners; if the owner or applicant is a Corporation, a disclosure of all owners with an interest of at least ten percent (10%).

NOTE: Private covenants and deed restrictions can limit private property rights with respect to the use of land even though the City's Zoning Ordinance may authorize the use or a less restrictive use. We strongly advise that you perform a title search on the property to determine if there any private covenants containing use restrictions or other deed restrictions. As those private covenants and deed restrictions may conflict with the City's Zoning Ordinance, it is further recommended that you consult with an attorney to obtain an opinion with respect to whether your intended use is compatible with those restrictions.

☑ **LEGAL DESCRIPTION:** For entire subject property, on 8 ½ x 11 inch paper

☑ **PLAT OF SURVEY:**

A current plat of survey for the Subject Realty showing all existing improvements on the property, prepared by a registered Illinois Professional Land Surveyor.

☑ **SOIL AND WATER CONSERVATION DISTRICT APPLICATION:**

Copy of completed Land Use Opinion application as required by state law, as submitted to The Kane-Dupage Soil and Water Conservation District. http://www.kanedupageswcd.org/

Submit the application form and fee directly to the Kane-DuPage Soil and Water Conservation District. Provide a copy with this application.

☑ **ENDANGERED SPECIES REPORT:**

Copy of Endangered Species Consultation Agency Action to be filed with the Illinois Department of Natural Resources. http://dnr.illinois.gov/EcoPublic/

Fill out the online form, print the report and submit with this application.

☑ **PLANS:**

All required plans shall be drawn on sheets no larger than 24" x 36", unless the Director of Community Development permits a larger size when necessary to show a more comprehensive view of the project. All required plans shall show north arrow and scale, and shall be drawn at the same scale (except that a different scale may be used to show details or specific features). All plans shall include the name of the project, developer or owner of site, person or firm preparing the plan, and the date of plan preparation and all revisions.

Copies of Plans:

Initial Submittal - Ten (10) full size copies for non-residential projects OR Twelve (12) full size copies for residential projects; Three (3) 11" by 17"; and a PDF electronic file (On a CD-ROM or may be emailed to the Project Manager). For subsequent submittals, please contact the Project Manager to determine how many copies are required.

☑ **SITE/ENGINEERING PLAN:**

PRELIMINARY ENGINNERING PLANS – DRAWING REQUIREMENTS/CHECKLIST:

Complete the attached checklist and ensure that all required information is included on the Preliminary Engineering Plans:

1. Accurate boundary lines with dimensions
2. Existing and proposed easements: location, width, purpose
3. Streets on and adjacent to the tract: Name and right-of-way width, center line elevation, and culverts
4. Location, size, shape, height, and use of existing and proposed structures
5. Location and description of streets, sidewalks, and fences
6. Surrounding land uses
7. Legal and common description
8. Date, north point, and scale
9. Existing and proposed topography
10. All parcels of land intended to be dedicated for public use or reserved for the use of all property owners with

the proposal indicated

11. Location of utilities
12. Building/use setback lines
13. Location of any significant natural features
14. Location of any 100-year recurrence interval floodplain and floodway boundaries
15. Location and classification of wetland areas as delineated in the National Wetlands Inventory
16. Existing zoning classification of property
17. Existing and proposed land use
18. Area of property in square feet and acres
19. Proposed off-street parking and loading areas
20. Number of parking spaces provided, and number required by ordinance
21. Angle of parking spaces
22. Parking space dimensions and aisle widths
23. Driveway radii at the street curb line
24. Width of driveways at sidewalk and street curb line
25. Provision of handicapped parking spaces
26. Dimensions of handicapped parking spaces
27. Depressed ramps available to handicapped parking spaces
28. Location, dimensions and elevations of freestanding signs
29. Location and elevations of trash enclosures
30. Provision for required screening, if applicable
31. Provision for required public sidewalks
32. Certification of site plan by a registered land surveyor or professional engineer
33. Geometric plan showing all necessary geometric data required for accurate layout of the site
34. Grading plans showing paving design, all storm sewers, and detention/retention facilities including detention/retention calculations) and erosion control measures
35. Utility plans showing all storm sewers, sanitary sewers, watermains, and appropriate appurtenant structures
36. Exterior lighting plans showing:
    - Location, height, intensity and fixture type of all proposed exterior lighting
    - Photometric information pertaining to locations of proposed lighting fixtures
37. Typical construction details and specifications
38. Certification of site engineering plans by a registered professional engineer
39. Proof of application for Stormwater Management Permit

N/A ☐ **SKETCH PLAN FOR LATER PHASES OF PUD:**

For phased PUD's, where a sketch plan is permitted, it shall include, at minimum, the following:

- General location of arterial and collector streets
- Location of any required landscape buffers
- Location of proposed access to the site from public streets
- Maximum number of square feet of floor area for nonresidential development
- Maximum number of dwelling units for residential development
- Open space and storm water management land

N/A ☐ **ARCHITECTURAL PLANS:**

Architectural plans and data for all principal buildings shall be submitted in sufficient detail to permit an understanding of the exterior appearance and architectural style of the proposed buildings, the number, size and type of dwelling units, the proposed uses of nonresidential and mixed use buildings, total floor area and total building coverage of each building.

☑ **TREE PRESERVATION PLAN:**

Tree Preservation Plan when required in accordance with Chapter 8.30 of the St. Charles Municipal Code. The information required for this plan may be included as part of the Landscape Plan set. See attachment, "Tree Preservation Requirements for Preliminary Plans".

☑ **LANDSCAPE PLAN:**

Landscape Plan showing the following information:

1. Delineation of the buildings, structures, and paved surfaces situated on the site and/or contemplated to be built thereon
2. Delineation of all areas to be graded and limits of land disturbance, including proposed contours as shown on the Site/Engineering Plan.
3. Accurate property boundary lines
4. Accurate location of proposed structures and other improvements, including paved areas, berms, lights, retention and detention areas, and landscaping
5. Site area proposed to be landscaped in square feet and as a percentage of the total site area
6. Percent of landscaped area provided as per code requirement
7. Dimensions of landscape islands
8. Setbacks of proposed impervious surfaces from property lines, street rights-of-way, and private drives
9. Location and identification of all planting beds and plant materials
10. Planting list including species of all plants, installation size (caliper, height, or spread as appropriate) and quantity of plants by species
11. Landscaping of ground signs and screening of dumpsters and other equipment

☑ **STORMWATER MANAGEMENT:**

Written information (reports, calculations, etc.) as described in the Stormwater Management Requirements for Preliminary Plans (attached)

☑ **SUBDIVISION PLAT DRAWING REQUIREMENTS/CHECKLIST:**

If the PUD Preliminary Plan involves the subdivision of land, a completed Subdivision Plat Drawing Requirements Checklist must be submitted.

☑ **PUBLIC BENEFITS, DEPARTURES FROM CODE:**

A description of how the PUD meets the purposes and requirements set out in Section 17.04.400 of the Zoning Ordinance. Any requests for departures from the requirements of Title 16, "Subdivisions and Land Improvement," and Title 17, "Zoning," shall be listed and reasons for requesting each departure shall be given.

☑ **SCHEDULE:** Construction schedule indicating:

a. Phases in which the project will be built with emphasis on area, density, use and public facilities, such as open space, to be developed with each phase. Overall design of each phase shall be shown on the plat and through supporting material.

b. Approximate dates for beginning and completion of each phase.

c. If different land use types are to be included within the PUD, the schedule must include the mix of uses to be built in each phase.

☑ **PARK AND SCHOOL LAND/CASH WORKSHEETS**

For residential developments, Park and School land/cash worksheets in accordance with Title 16 of the St. Charles Municipal Code with population projections establishing anticipated population and student yields.

☑ **INCLUSIONARY HOUSING SUMMARY**

For residential developments, submit information describing how the development will comply with the requirements of Title 19, "Inclusionary Housing" of the St. Charles Municipal Code.

I (we) certify that this application and the documents submitted with it are true and correct to the best of my (our) knowledge and belief.

[signature] 07/14/2020

Record Owner — Date

[signature] – President Airhaft Construction Corp 7/14/2020

Applicant or Authorized Agent — Date

MUNHALL GELN – PUBLIC BENEFITS, DEPARTURE FROM CODE

PROJECT CONCEPT

The development of this site will include 50 residential single family residences as well as open space and stormwater detention. The location of the property is excellent for residential construction. The property is located off a main collector road with great access from Tyler to the North Ave. shopping corridor and downtown St. Charles. It is excellent for commuting as well with its east side location.

Munhall Glen is designed with smaller lots and extremely livable low maintenance homes for downsizers and those looking for "right sized" homes. Due to the shape of the property we are creating a mix of lot widths and depths. This will allow us to create larger back yards in strategic locations that we believe will add to the character of the development and provides a great solution for the layout of this property.

The home designs are primarily focused on single level living with most homes having first floor master bedrooms with secondary bedrooms or loft space on the second floor. There will be some homes with second floor master bedrooms.

Open space is designed to the north of the project which connects to what will hopefully be a future linear park. This will create great access to the park system in St. Charles and beyond for walkers, runners and bikers. Additional open area will be at the entry which includes open space and a second detention basin. The neighborhood will have sidewalks and three pocket parks for social interaction designed into the neighborhood. The first will be at the entry and the other two will be overlooking the natural basin to the north. These areas allow walkers a place to rest or gather with friends.

In addition, the near town location creates easy access to the many parks and the Fox River path system which gives its residents amazing outdoor opportunities.

Architecture:

The homes include a variety of exterior styles that blend together to create a unique and interesting street scape from traditional to midcentury modern. Homes may feature a front porch to increase neighbor interaction as well as stone or brick accents mixed with siding. The garage faces will be set back from the front of the homes to lessen the impact of the garage doors.

These homes will primarily have first floor master bedrooms designed for owners looking for single level living. The interiors will focus on open concept living with dual use spaces for efficient living. These homes have smaller private yards and include patios or decks on the rear of the homes for outdoor enjoyment.

The finished living space will range from 1,300 to 3,000 square feet, 2-4 bedrooms and 2-3 ½ baths and include a two car attached garage with 2 additional parking spaces. The exteriors will be a combination of low maintenance materials including architectural grade shingles, fiber cement siding, aluminum soffits and fascia, concrete porches and options to include cultured stone or brick accents.

While the homes are not attached, they draw buyers looking for the low maintenance of attached homes, without the drawback of having attached walls.

Departures from Code

Because of our focus on single level living and first floor master bedroom homes the straight RS-4 zoning negatively impacts the pursuit of supplying that housing. In order to meet the stated goals above we are requesting a few departures from code to provide this housing. Not all are departures from code, in fact some are more restrictive, the items are listed together to be comprehensive in review.

Due to the shape of the property 2 lot sizes will be utilized to promote a variety of housing and create better opportunities for expanded rear yards. Following is minimum lot size, setbacks and lot coverage in each category.

53 foot wide lots (Premier Homes)

Minimum Lot Area:	6,307 square feet	Departure from Code
Minimum Lot Width:	53 feet	Departure from Code
Maximum Building Coverage:	37.5%	Departure from Code
Maximum Building Height:	34 feet or 2 stories (whichever is less)	Equal to Code
Setbacks:		
Front yard:		
Front Porch:	14 feet	More Restrictive than Code
Living space:	20 feet (Enclosed & heated)	Equal to Code
Garage	25 feet	More Restrictive than Code
Interior Side yard:	6 feet	More Restrictive than Code
Between Homes:	Minimum 12 feet	Departure from Code
Exterior Side Yard:	15 feet	Equal to Code
Rear yard:	30 feet	Equal to Code

74 foot wide lots (Garden Homes)

Minimum Lot Area:	7,030 square feet	More Restrictive than Code
Minimum Lot Width:	74 feet	More Restrictive than Code
Maximum Building Coverage:	37.5%	Departure from Code
Maximum Building Height:	34 feet or 2 stories (whichever is less)	Equal to Code

Setbacks:

Front yard:

Front Porch:	14 feet	More Restrictive than Code
Living space:	20 feet (Enclosed & heated)	Equal to Code
Garage	25 feet	More Restrictive than Code
Interior Side yard:	6 feet	More Restrictive than Code
Between Homes:	Minimum 12 feet	Departure from Code
Exterior Side Yard:	15 feet	Equal to Code
Rear yard:	30 feet	Equal to Code

Munhall Glen Construction Schedule:

Upon Municipal Approval and weather permitting:

Site Development will take approximately 6 months and will include:

1) Site Mobilization
2) Tree Removal
3) Silt fence and BMP protections
4) Mass Grading
    a. Structural grading of house sites
    b. Structural grading of roads
    c. Grading of storm water basins
5) Utility installation
    a. Sanitary Sewer
    b. Storm Sewer
    c. Water main
    d. Conduits for electric mains and structures
6) Road Construction
7) Landscape installation
    a. Installation of storm basin landscaping
    b. Installation of paths and pocket park amenities
    c. Tree installation
8) Model Home and spec home construction will occur during Site Development, but occupancy will not be allowed until utility and emergency access for vehicles are complete.

Home Construction:

Once site development is complete home construction will begin and we estimate the buildout for the site to take approximately 48-60 months.

PARK LAND/CASH WORKSHEET

City of St. Charles, Illinois

Name of Development	Munhall Glen
Date Submitted:	July 27, 2020
Prepared by:	Court Airhart

ST. CHARLES SINCE 1834

Total Dwelling Units: 50

A credit for existing residential lots within the proposed subdivision shall be granted. Deduct one (1) unit per existing lot.

Total Dwelling Units w/ Deduction: 49

If the proposed subdivision contains an existing residential dwelling unit, a credit calculated as a reduction of the estimated population for the dwelling is available. Please request a worksheet from the City.

Estimated Population Yield:

Type of Dwelling	*# Dwelling Units (DU)*	*Population Generation per Unit*	*Estimated Population*
Detached Single Family 2 Bedroom: 5 units		DU x 2.017	= 10.085
➢ 3 Bedroom	44	DU x 2.899	= 127.556
➢ 4 Bedroom		DU x 3.764	=
➢ 5 Bedroom		DU x 3.770	=
Attached Single Family			
➢ 1 Bedroom		DU x 1.193	=
➢ 2 Bedroom		DU x 1.990	=
➢ 3 Bedroom		DU x 2.392	=
➢ 4 Bedroom		DU x 3.145	=
Apartments			
➢ Efficiency		DU x 1.294	=
➢ 1 Bedroom		DU x 1.758	=
➢ 2 Bedroom		DU x 1.914	=
➢ 3 Bedroom		DU x 3.053	=

Totals

49
Total Dwelling Units
(with deduction, if applicable)

137.641
Estimated Total Population

Park Site Requirements:

Estimated Total Population 137.641 x .010 Acres per capita = 1.3764 Acres

Cash in lieu of requirements:

Total Site Acres 1.3764 x $240,500 (Fair Market Value per Improved Land) = $ 331,026.61

SCHOOL LAND/CASH WORKSHEET

Citv of St. Charles. Illinois

Name of Development: Munhall Glen
Date Submitted: July 27th, 2020
Prepared by: Court Airhart

ST. CHARLES SINCE 1834

Total Dwelling Units: 50

A credit for existing residential lots within the proposed subdivision shall be granted. Deduct one (1) unit per existing lot.

Total Dwelling Units w/ Deduction: 49

If the proposed subdivision contains an existing dwelling unit, a credit is available calculated as a reduction of the estimated population for the dwelling. Please request a worksheet from the City.

Estimated Student Yield by Grades:

Type of Dwelling	*# of dwelling Units (DU)*	*Elementary (Grades K to 5)*		*Middle (Grades 6 to 8)*		*High (Grades 9 to 12)*	
Detached Single Family 2 Bedroom: 5 units		DU x .136	= .68	DU x .048	= .24	DU x .020	= .1
➢ 3 Bedroom	44	DU x .369	= 16.236	DU x .173	= 7.612	DU x .184	= 8.096
➢ 4 Bedroom		DU x .530	=	DU x .298	=	DU x .360	=
➢ 5 Bedroom		DU x .345	=	DU x .248	=	DU x .300	=
Attached Single Family							
➢ 1 Bedroom		DU x .000	=	DU x .000	=	DU x .000	=
➢ 2 Bedroom		DU x .088	=	DU x .048	=	DU x .038	=
➢ 3 Bedroom		DU x .234	=	DU x .058	=	DU x .059	=
➢ 4 Bedroom		DU x .322	=	DU x .154	=	DU x .173	=
Apartments							
➢ Efficiency		DU x .000	=	DU x .000	=	DU x .000	=
➢ 1 Bedroom		DU x .002	=	DU x .001	=	DU x .001	=
➢ 2 Bedroom		DU x .086	=	DU x .042	=	DU x .046	=
➢ 3 Bedroom		DU x .234	=	DU x .123	=	DU x .118	=

Totals 49 TDU (with deduction, if applicable) 16.916 TE 7.852 TM 8.196 TH

School Site Requirements:

Type	*# of students*	*Acres per student*	*Site Acres*
Elementary (TE)	16.916	x .025	= .4229
Middle (TM)	7.852	x .0389	= .3054
High (TH)	8.196	x .072	= .5901
		Total Site Acres	1.3184

Cash in lieu of requirements:

1.3184 (Total Site Acres) x $240,500 (Fair Market Value per Improved Land) = $ 317,075.20

INCLUSIONARY HOUSING WORKSHEET

Name of Development	Munhall Glen
Date Submitted:	July 27, 2020
Prepared by:	Court Airhart

Use this worksheet to determine the affordable unit requirement for the proposed development and to propose how the development will meet the Inclusionary Housing requirements of Title 19.

Calculate the number of affordable units required:

Unit Count Range	# of Units Proposed in Development		% of Affordable Units Required		# of Affordable Units Required
1 to 15 Units		X	5%	=	
More than 15 Units	49	X	10%	=	4.9

How will the Inclusionary Housing requirement be met?

- ☐ **Provide on-site affordable units**
- ☒ **Pay a fee in-lieu of providing affordable units (calculate fee in-lieu below)**
- ☐ **Provide a mixture of affordable units and fee in-lieu**
  - **# of affordable units to be provided: _____**
  - **Amount of fee in-lieu to be paid (calculate below): _____**

Fee In-Lieu Payment Calculation

# of Affordable Units Required	# of Affordable Units Proposed to Pay the Fee-In-Lieu		Fee-In-Lieu Amount Per Unit		Total Fee-In-Lieu Amount
4.9		X	$39,665.75	=	$194,362.18

Hampton, Lenzini and Renwick, Inc.
Civil Engineering • Structural Engineering • Environmental Services • Land Surveying
www.hlrengineering.com

September 4, 2020

Attn: Ellen Johnson
City of St. Charles
2 E. Main Street
St. Charles, IL 60174

Re: Munhall Glen Residential Development
St. Charles, IL
Traffic Impact Study

Dear Ms. Johnson:

Per your request we reviewed the revised Traffic Study and response letter submitted by Gewalt Hamilton Associates, Inc. (GHA) on September 2, 2020 for the referenced project. We concur with the findings of the study with one minor comment below.

1. On Exhibit 6B (2027 Total Traffic), show the traffic volume at the open access of the site at South Avenue.

If you have any questions or need additional information please contact HLR at 847-697-6700.

Yours truly,

HAMPTON, LENZINI AND RENWICK, INC.

By: Callie Allright

Callie Allbright, PE, PTOE
Traffic Engineer

Amy McSwane, PE, PTOE
Preliminary/Traffic Engineering Manager

380 Shepard Drive
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323 W. Third Street,P.O. Box 160
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Memorandum

GHA GEWALT HAMILTON ASSOCIATES, INC.
CONSULTING ENGINEERS
625 Forest Edge Drive, Vernon Hills, IL 60061
TEL 847.478.9700 ■ FAX 847.478.9701
www.gha-engineers.com

To: Mr. Court Airhart
Airhart Construction

From: Lynn M. Means, P.E., PTOE
Senior Transportation Engineer

Date: July 10, 2020
Updated September 2, 2020

Subject: Munhall Glen Residential Development
Munhall Avenue and Tyler Road
St. Charles, Illinois

Part I. Introduction and Project Context

Gewalt Hamilton Associates, Inc. (GHA) has conducted a Traffic Summary for the proposed Munhall Glen residential development. The site is located on the northwest side of Munhall Avenue, west of Tyler Road, in St. Charles, Illinois. It currently contains a single-family residence and vacant land, accessed via two driveways on Munhall Avenue. As currently proposed, the project includes redeveloping the site to provide 50 age-targeted (not-restricted), single-family homes. Access to the site is proposed via one access on Munhall Avenue. Secondary, emergency access, is also planned via a connection to South Avenue. This also provides an opportunity to permit an open (full access) connection to South Avenue.

The following provides a summary of site traffic characteristics and the analysis conducted, which includes an analysis of the development's impact on the surrounding roadway network. *Exhibits* and *Appendices* referenced are in the Technical Addendum at the end of this document.

Part II. Background Information

Site Location Map and Roadway Inventory

Exhibit 1 provides a site location map. ***Exhibit 2*** depicts traffic operations on the roadways serving the site, including the lane geometry, traffic control (traffic signal and stop control) and posted speed limits. All roadways within the study area are under local, City of St. Charles jurisdiction except Main Street (IL Route 64) is under the jurisdiction of the Illinois Department of Transportation (IDOT). ***Appendix A*** provides a photo inventory of current traffic operations.

<u>Area Land Uses</u>

- The site currently contains a single-family residence with two driveways on Munhall Avenue.
- The site is bound by Tyler Ridge Business Park to the north and east, commercial/industrial uses (including Tanglewood Marine, Bluegrass, CrossFit) to the west and single family residential to the south.

<u>Pedestrian Facilities</u>

A sidewalk is generally provided along both sides of the study area roadways. There are a few areas of disconnect along the east side of 7th Avenue, primarily adjacent to vacant parcels. Pedestrian signals are provided at the Main Street intersections with 7th Avenue and Tyler Road. Crosswalks are also provided on all approaches of these signalized intersections, as well as several of the minor street approaches (see *Exhibit 2*).

Existing Traffic

Exhibit 3 summarizes the existing weekday morning and evening peak hour traffic volumes. Peak period count data along Tyler Road, Madison Avenue, Main Street and 7th Street was obtained from IDOT's Traffic Count Database System from year 2018, as well as along Main Street from year 2019. The IDOT data was supplemented with turning movement count conducted by GHA on Tuesday, August 25, 2020 from 7:00 to 9:00 AM and 4:00 to 6:00 PM at the intersections of Tyler Road at Munhall Avenue and Indiana Avenue at 13th Avenue.

The observed weekday morning and evening peak hours generally occurred from 7:00 to 8:00 AM and 5:00 to 6:00 PM, respectively. The peak hour for each individual intersection / road segment was used in the analysis to provide a conservative analysis scenario.

Exhibit 3 also provides the Annual Average Daily Traffic (AADT) along Main Street (year 2019) and Tyler Road, Madison Avenue and 7th Street (year 2018) obtained from IDOT's website: www.gettingaroundillinois.com. Summaries of the IDOT traffic counts can be found in ***Appendix B*** and the intersection traffic counts in ***Appendix C***.

Notes:
1. *The IDOT traffic volumes presented in Appendix B represent "raw", unadjusted data. These volumes are adjusted based on day of week and month of year factors, resulting in an AADT which is lower than the total.*
2. *The Tyler Road and Munhall Avenue intersection volumes were balanced with the IDOT segment volumes to account for abnormal traffic conditions within the study area associated with school and business closures due to COVID-19.*
3. *The 2020 Tyler Road and Munhall Avenue intersection volumes were approximately 15 to 25 percent lower than the IDOT roadway segment peak hour volumes. Accordingly, to provide a conservative analysis scenario, the 2020 peak hour volumes at the intersection of Indiana Avenue and 13th Avenue were increased by 25 percent.*

Crash Analysis

Crash data was obtained from the IDOT Division of Transportation and Safety for the last five calendar years, 2014 through 2018[i]. A summary of the crash data is provided in ***Table 1*** with the locations mapped on the exhibit contained in ***Appendix D***. There were no reported fatalities or crashes within the five-year analysis period that involved a bicyclist or pedestrian.

As shown in Table 1, the intersection of Tyler Road at Madison Avenue and Wallace Avenue has experienced the highest number of crashes within the study area over the five-year analyses period, with an average of approximately 1.5 crashes per year. Approximately 86 percent (6 of 7) of the crashes involved property damage only and approximately 71 percent (5 of 7) were cross-movement/angle type collisions.

[i] Complete year 2019, as well as year 2020 crash data was not available from IDOT at the time of this study.

Table 1: Crash Summary (2014 – 2018)

Location	No. of Crashes	Severity [A]					Crash Type [C]						Percent During Wet/Icy Conditions
		PD	PI [B]			F	CM	RE	HO	FO	Ped	Bike	
			A	B	C								
Intersections [D]													
Tyler Rd & Munhall Ave	3	3	-	-	-	-	2	-	-	1	-	-	67%
Tyler Rd & Madison Ave/Wallace Ave	7	6	1	-	-	-	5	2	-	-	-	-	0%
Madison Ave & Independence Ave	3	1	-	1	1	-	1	1	-	1	-	-	0%
Madison Ave & 7th Ave	1	1	-	-	-	-	-	1	-	-	-	-	0%
7th Ave & Indiana Ave	5	5	-	-	-	-	4	-	-	1	-	-	0%
Indiana Ave & 14th Ave	1	1	-	-	-	-	-	-	-	1	-	-	0%
Segments													
Tyler Rd: Munhall Ave and Main St	3	3	-	-	-	-	-	1	-	2	-	-	0%
Madison Ave: Tyler Rd and 7th Ave	3	3	-	-	-	-	1	-	-	2	-	-	0%
7th Ave: Madison Ave and Indiana Ave	4	2	-	2	-	-	1	-	-	3	-	-	25%
Indiana Ave: 7th Ave and 14th Ave	3	3	-	-	-	-	3	-	-	-	-	-	33%
Total (2014-18)	**33**	**28**	**1**	**3**	**1**	**0**	**17**	**5**	**0**	**11**	**0**	**0**	**9%**

[A] PD = property damage only; PI = personal injury; F = fatality.
[B] Type A (incapacitating injury); Type B (non-incapacitating injury); Type C (possible injury).
[C] CM = cross movement/angle; RE = rear end; HO = head on; FO = fixed object; Ped = pedestrian.
[D] Crashes within 200 feet of an intersection.

No-Build Traffic

Exhibit 4 summarizes the 2027 No-Build weekday morning and evening peak hour traffic volumes. Traffic growth in the area is a function of expected land development in the region. Future traffic volume conditions were developed for the year 2027, build-out year of the development plus five years. Based on a review of historical traffic volumes and the Chicago Metropolitan Agency for Planning (CMAP) 2050 projections (see ***Appendix E***), traffic volumes within the study area are assumed to experience a compounded growth rate of approximately 0.2 to 1.4 percent per year. However, to provide a conservative analysis scenario, a 0.5 to 1.5 percent per year compounded growth rate was applied (0.5% along 7th Avenue, Indiana Avenue, 13th Avenue and Tyler Road between Main Street and Madison Avenue; 1% along Main Street; and 1.5% along Madison Avenue and Tyler Road between Madison Avenue and Kirk Road).

Part III. Project Traffic Characteristics

Proposed Development

The development consists of redeveloping the site to include 50 age-targeted (not-restricted), single-family homes. Access to the site is proposed via one access on Munhall Avenue. Secondary, emergency access, is also planned via a connection to South Avenue. This also provides an opportunity to permit an open (full access) connection to South Avenue.

Trip Generation and Directional Distribution

Trip generation rates published by the Institute of Transportation Engineers (ITE) in the 10th Edition of the Manual *Trip Generation* were used to determine the anticipated traffic from the proposed residential use (see ***Appendix F***). The number of vehicle trips anticipated during the weekday morning peak hour (one hour between 7:00 and 9:00 AM) and weekday evening peak hour (one hour between 4:00 and 6:00 PM), as well as on a weekday daily (24-hour) basis is displayed in ***Table 2*** and includes all traffic attributed to the proposed residential development (residents, visitors, deliveries, etc.).

Table 2 also presents a comparison between trip generation estimates based on traditional single-family homes and senior housing rates.

Table 2: Estimated Trip Generation

Land Use	Size	ITE Land Use Code	AM Peak Hour[1]			PM Peak Hour[2]			Weekday Daily (24-hr)		
			In	Out	Total	In	Out	Total	In	Out	Total
Single Family Homes	50 Units	210	10	30	40	33	19	52	275	275	550
Senior Adult Housing		251	8	16	24	17	11	28	153	153	306
Trip Generation Comparison[3]			*-2*	*-14*	*-16*	*-16*	*-8*	*-24*	*-122*	*-122*	*-244*

[1] One hour between 7:00 and 9:00 AM. [2] One hour between 4:00 and 6:00 PM.
[3] Senior housing (age-restricted) trip generation estimates less traditional (non-restricted), single-family homes.

As shown in Table 2, it is expected that the proposed residential development will generate between 306 and 550 total trips on a typical weekday for senior housing and traditional (non, age-restricted) single family uses, respectively. During the peak hours, the development is expected to generate between 24 and 40 vehicle trips during the weekday AM and between 28 and 52 trips during the weekday PM, again, for senior housing (lower value) and traditional single-family housing (higher value).

Notes: 1. The existing site formerly contained a single-family residence.

2. The development is anticipated to be age-targeted (not restricted). As shown in Table 2, the trip generation estimates based on senior housing use (ITE LUC 251) are approximately 40 to 45 percent lower during the weekday morning and evening peak hours, respectively, as well as approximately 45 percent lower on a daily basis.

3. ***Accordingly, the new trips as presented in Table 2 (highlighted in green and assumed in this study) provides a conservative analysis scenario.***

The anticipated trip distribution of site traffic is summarized in ***Table 3***. This was based on current travel patterns, the operational characteristics of the street system and site access.

Table 3: Trip Distribution

Route & Direction	Percent Route To/From Site
North Avenue	
West of 7th Avenue	20%
East of Tyler Road	35%
Tyler Road	
South of Madison Avenue	25%
7th Avenue	
South of Madison Avenue	20%
Totals =	***100%***

Site and Total Traffic Assignments

Exhibit 5A illustrates the site traffic assignment for the proposed development's trips, which is based on the traffic characteristics summarized in *Tables 2 and 3* (traffic generation and trip distribution) and assigned to the area roadways, assuming a gated, emergency access at South Avenue. ***Exhibit 5B*** illustrates the site traffic assignment, assuming an open (full access) connection to South Avenue. The site traffic (*Exhibit 5*) and 2027 No-Build traffic (*Exhibit 4*) were combined to produce the 2027 Total traffic, which is illustrated on ***Exhibits 6A and 6B***, with a gated connection to South Avenue and an open connection, respectively.

Traffic Increases

As shown on *Exhibit 5*, the total (including both entering and exiting traffic) weekday AM and PM peak hour between 8 and 17 vehicle trips are expected on the roadways leading beyond the study area, or one additional vehicle every 3 to 7 minutes. ***Accordingly, the amount of site-generated traffic is expected to have minimal effects on the operations of the external street network. The gated or open connection to South Avenue has minimal impact on roadway operations.***

Part IV. Traffic Evaluation

Capacity Analysis

Capacity analyses are a standard measurement that identifies how an intersection operates. They are measured in terms of Level of Service (LOS). The concept of LOS is defined as a qualitative measure describing operational conditions within a traffic stream and their perception by motorists and/or passengers. A level-of-service definition provides an index to quality of traffic flow in terms of such factors as speed, travel time, freedom to maneuver, traffic interruptions, comfort, convenience, and safety.

Six Levels of Service are defined for each type of facility. They are given letter designations from A to F, with LOS A representing the best operating conditions and LOS F the worst. LOS C is often considered acceptable for design purposes and LOS D is usually considered as providing the lower threshold of acceptable operations. Since the level of service is a function of the traffic flows placed upon it, the facility may operate at a wide range of levels of service, depending on the time of day, day of week or period of year. A description of the operating condition under each level of service, based on the analysis parameters as published in the Transportation Research Board's (TRB) Highway Capacity Manual (HCM), Sixth Edition, is provided in ***Table 4***.

Table 4: Level of Service (LOS) Summary

LOS	Description	Delay (sec/veh)	
		Traffic Signal	Stop Sign
A	Describes conditions with little to no delay to motorists.	<10	< 10
B	Represents a desirable level with relatively low delay to motorists.	>10 and < 20	>10 and < 15
C	Describes conditions with average delays to motorists.	>20 and < 35	>15 and < 25
D	Describes operations where the influence of congestion becomes more noticeable. Delays are still within an acceptable range.	>35 and < 55	>25 and < 35
E	Represents operating conditions with high delay values. This level is often considered within urban settings or for minor streets intersecting major arterial roadways to be the limit of acceptable delay.	>55 and < 80	>35 and < 50
F	Is unacceptable to most drivers with high delay values that often occur, when arrival flow rates exceed the capacity of the intersection.	>80	>50

Capacity analyses were performed for four scenarios:

- *Existing Traffic* - Existing traffic,
- *No-Build Traffic* – Future (non-site, year 2027) traffic with background growth (assumed at 0.5 to 1.5 percent compounded per year) and
- *Total Traffic, Gated Access* – Future No-Build traffic volumes (year 2027) plus the addition of site generated traffic, with a gate at South Avenue.
- *Total Traffic, Open Access* – Total Traffic with open site access at South Avenue.

Table 5 summarizes the intersection capacity and queue analysis results. Capacity analysis summary printouts are provided in ***Appendix G***.

Table 5: Level-of-Service Summary

Intersection / Timeframe		Roadway Conditions	Movement Group By Approach > = Shared Lane - = Non Critical or not Allowed Movement											
			Eastbound			Westbound			Northbound			Southbound		
1. Tyler Rd at Munhall Ave		**TWSC - EB Stops**	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
AM Peak	**A.Existing (See Exhibit 3)**	• LOS	>	**B**	<	-	-	-	>	**A**	-	-	-	-
		• Delay	-	13.3	-	-	-	-	-	8.0	-	-	-	-
		• 95th Queue Length (ft)	-	5	-	-	-	-	-	-	-	-	-	-
		• Approach LOS (Delay)		**B (13.3)**			-			-			-	
	B. 2027 No-Build (See Exhibit 4)	• LOS	>	**B**	<	-	-	-	>	**A**	-	-	-	-
		• Delay	-	13.7	-	-	-	-	-	8.0	-	-	-	-
		• 95th Queue Length (ft)	-	5	-	-	-	-	-	-	-	-	-	-
		• Approach LOS (Delay)		**B (13.7)**			-			-			-	
	C. 2027 Total - Gated (See Exhibit 6A)	• LOS	>	**B**	<	-	-	-	>	**A**	-	-	-	-
		• Delay	-	13.6	-	-	-	-	-	8.0	-	-	-	-
		• 95th Queue Length (ft)	-	10	-	-	-	-	-	-	-	-	-	-
		• Approach LOS (Delay)		**B (13.6)**			-			-			-	
	D. 2027 Total - Open (See Exhibit 6B)	• LOS	>	**B**	<	-	-	-	>	**A**	-	-	-	-
		• Delay	-	13.4	-	-	-	-	-	8.0	-	-	-	-
		• 95th Queue Length (ft)	-	8	-	-	-	-	-	-	-	-	-	-
		• Approach LOS (Delay)		**B (13.4)**			-			-			-	
PM Peak	**A.Existing (See Exhibit 3)**	• LOS	>	**B**	<	-	-	-	>	**A**	-	-	-	-
		• Delay	-	13.7	-	-	-	-	-	8.1	-	-	-	-
		• 95th Queue Length (ft)	-	5	-	-	-	-	-	-	-	-	-	-
		• Approach LOS (Delay)		**B (13.7)**			-			-			-	
	B. 2027 No-Build (See Exhibit 4)	• LOS	>	**B**	<	-	-	-	>	**A**	-	-	-	-
		• Delay	-	14.0	-	-	-	-	-	8.1	-	-	-	-
		• 95th Queue Length (ft)	-	5	-	-	-	-	-	-	-	-	-	-
		• Approach LOS (Delay)		**B (14.0)**			-			-			-	
	C. 2027 Total - Gated (See Exhibit 6A)	• LOS	>	**B**	<	-	-	-	>	**A**	-	-	-	-
		• Delay	-	14.4	-	-	-	-	-	8.2	-	-	-	-
		• 95th Queue Length (ft)	-	8	-	-	-	-	-	-	-	-	-	-
		• Approach LOS (Delay)		**B (14.4)**			-			-			-	
	D. 2027 Total - Open (See Exhibit 6B)	• LOS	>	**B**	<	-	-	-	>	**A**	-	-	-	-
		• Delay	-	14.3	-	-	-	-	-	8.2	-	-	-	-
		• 95th Queue Length (ft)	-	8	-	-	-	-	-	-	-	-	-	-
		• Approach LOS (Delay)		**B (14.3)**			-			-			-	

Table 5: Level-of-Service Summary (cont.)

Intersection / Timeframe		Roadway Conditions	Movement Group By Approach > = Shared Lane - = Non Critical or not Allowed Movement											
			Eastbound			Westbound			Northbound			Southbound		
2. Indiana Ave at 13th Ave (N Leg)		**TWSC - NB Stops**	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
AM Peak	**A.Existing (See Exhibit 3)**	• LOS	**>**	**A**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**>**	**A**	**<**
		• Delay	-	7.4	-	-	-	-	-	-	-	-	9.2	-
		• 95th Queue Length (ft)	-	3	-	-	-	-	-	-	-	-	5	-
		• Approach LOS (Delay)		-			**-**			**-**			**A (9.2)**	
	B. 2027 No-Build (See Exhibit 4)	• LOS	**>**	**A**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**>**	**A**	**<**
		• Delay	-	7.4	-	-	-	-	-	-	-	-	9.3	-
		• 95th Queue Length (ft)	-	3	-	-	-	-	-	-	-	-	5	-
		• Approach LOS (Delay)		-			**-**			**-**			**A (9.3)**	
	C. 2027 Total - Gated (See Exhibit 6A)	• LOS	**>**	**A**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**>**	**A**	**<**
		• Delay	-	7.4	-	-	-	-	-	-	-	-	9.3	-
		• 95th Queue Length (ft)	-	3	-	-	-	-	-	-	-	-	5	-
		• Approach LOS (Delay)		-			**-**			**-**			**A (9.3)**	
	D. 2027 Total - Open (See Exhibit 6B)	• LOS	**>**	**A**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**>**	**A**	**<**
		• Delay	-	7.4	-	-	-	-	-	-	-	-	9.3	-
		• 95th Queue Length (ft)	-	3	-	-	-	-	-	-	-	-	5	-
		• Approach LOS (Delay)		-			**-**			**-**			**A (9.3)**	
PM Peak	**A.Existing (See Exhibit 3)**	• LOS	**>**	**A**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**>**	**A**	**<**
		• Delay	-	7.4	-	-	-	-	-	-	-	-	9.3	-
		• 95th Queue Length (ft)	-	-	-	-	-	-	-	-	-	-	8	-
		• Approach LOS (Delay)		-			**-**			**-**			**A (9.3)**	
	B. 2027 No-Build (See Exhibit 4)	• LOS	**>**	**A**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**>**	**A**	**<**
		• Delay	-	7.4	-	-	-	-	-	-	-	-	9.3	-
		• 95th Queue Length (ft)	-	-	-	-	-	-	-	-	-	-	8	-
		• Approach LOS (Delay)		-			**-**			**-**			**A (9.3)**	
	C. 2027 Total - Gated (See Exhibit 6A)	• LOS	**>**	**A**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**>**	**A**	**<**
		• Delay	-	7.4	-	-	-	-	-	-	-	-	9.3	-
		• 95th Queue Length (ft)	-	-	-	-	-	-	-	-	-	-	8	-
		• Approach LOS (Delay)		-			**-**			**-**			**A (9.3)**	
	D. 2027 Total - Open (See Exhibit 6B)	• LOS	**>**	**A**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**>**	**A**	**<**
		• Delay	-	7.4	-	-	-	-	-	-	-	-	9.3	-
		• 95th Queue Length (ft)	-	-	-	-	-	-	-	-	-	-	8	-
		• Approach LOS (Delay)		-			**-**			**-**			**A (9.3)**	

Table 5: Level-of-Service Summary (cont.)

Intersection / Timeframe		Roadway Conditions	Movement Group By Approach > = Shared Lane - = Non Critical or not Allowed Movement											
			Eastbound			Westbound			Northbound			Southbound		
3. Indiana Ave at 13th Ave (S Leg)		**TWSC - NB Stops**	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
AM Peak	**A.Existing (See Exhibit 3)**	• LOS	-	-	-	>	**A**	-	>	**A**	<	-	-	-
		• Delay	-	-	-	-	7.3	-	-	9.1	-	-	-	-
		• 95th Queue Length (ft)	-	-	-	-	-	-	-	3	-	-	-	-
		• Approach LOS (Delay)		-			-			**A (9.1)**			-	
	B. 2027 No-Build (See Exhibit 4)	• LOS	-	-	-	>	**A**	-	>	**A**	<	-	-	-
		• Delay	-	-	-	-	7.3	-	-	9.1	-	-	-	-
		• 95th Queue Length (ft)	-	-	-	-	-	-	-	3	-	-	-	-
		• Approach LOS (Delay)		-			-			**A (9.1)**			-	
	C. 2027 Total - Gated (See Exhibit 6A)	• LOS	-	-	-	>	**A**	-	>	**A**	<	-	-	-
		• Delay	-	-	-	-	7.3	-	-	9.1	-	-	-	-
		• 95th Queue Length (ft)	-	-	-	-	-	-	-	3	-	-	-	-
		• Approach LOS (Delay)		-			-			**A (9.1)**			-	
	D. 2027 Total - Open (See Exhibit 6B)	• LOS	-	-	-	>	**A**	-	>	**A**	<	-	-	-
		• Delay	-	-	-	-	7.3	-	-	9.2	-	-	-	-
		• 95th Queue Length (ft)	-	-	-	-	-	-	-	3	-	-	-	-
		• Approach LOS (Delay)		-			-			**A (9.2)**			-	
PM Peak	**A.Existing (See Exhibit 3)**	• LOS	-	-	-	>	**A**	-	>	**A**	<	-	-	-
		• Delay	-	-	-	-	7.4	-	-	9.1	-	-	-	-
		• 95th Queue Length (ft)	-	-	-	-	-	-	-	3	-	-	-	-
		• Approach LOS (Delay)		-			-			**A (9.1)**			-	
	B. 2027 No-Build (See Exhibit 4)	• LOS	-	-	-	>	**A**	-	>	**A**	<	-	-	-
		• Delay	-	-	-	-	7.4	-	-	9.2	-	-	-	-
		• 95th Queue Length (ft)	-	-	-	-	-	-	-	3	-	-	-	-
		• Approach LOS (Delay)		-			-			**A (9.2)**			-	
	C. 2027 Total - Gated (See Exhibit 6A)	• LOS	-	-	-	>	**A**	-	>	**A**	<	-	-	-
		• Delay	-	-	-	-	7.4	-	-	9.2	-	-	-	-
		• 95th Queue Length (ft)	-	-	-	-	-	-	-	3	-	-	-	-
		• Approach LOS (Delay)		-			-			**A (9.2)**			-	
	D. 2027 Total - Open (See Exhibit 6B)	• LOS	-	-	-	>	**A**	-	>	**A**	<	-	-	-
		• Delay	-	-	-	-	7.4	-	-	9.2	-	-	-	-
		• 95th Queue Length (ft)	-	-	-	-	-	-	-	3	-	-	-	-
		• Approach LOS (Delay)		-			-			**A (9.2)**			-	

Table 5: Level-of-Service Summary (cont.)

Intersection / Timeframe		Roadway Conditions	Movement Group By Approach											
			> = Shared Lane - = Non Critical or not Allowed Movement											
			Eastbound			Westbound			Northbound			Southbound		
4. Munhall Ave at Site Access		**TWSC - EB Stops**	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
AM Peak	**C. 2027 Total - Gated (See Exhibit 6A)**	• LOS	**>**	**A**	**<**	**-**	**-**	**-**	**A**	**-**	**-**	**-**	**-**	**-**
		• Delay	-	8.7	-	-	-	-	7.3	-	-	-	-	-
		• 95th Queue Length (ft)	-	3	-	-	-	-	-	-	-	-	-	-
		• Approach LOS (Delay)		**A (8.7)**			**-**			**-**			-	
	D. 2027 Total - Open (See Exhibit 6B)	• LOS	**>**	**A**	**<**	**-**	**-**	**-**	**A**	**-**	**-**	**-**	**-**	**-**
		• Delay	-	8.7	-	-	-	-	7.2	-	-	-	-	-
		• 95th Queue Length (ft)	-	3	-	-	-	-	-	-	-	-	-	-
		• Approach LOS (Delay)		**A (8.7)**			**-**			**-**			-	
PM Peak	**C. 2027 Total - Gated (See Exhibit 6A)**	• LOS	**>**	**A**	**<**	**-**	**-**	**-**	**A**	**-**	**-**	**-**	**-**	**-**
		• Delay	-	9	-	-	-	-	7.4	-	-	-	-	-
		• 95th Queue Length (ft)	-	3	-	-	-	-	-	-	-	-	-	-
		#REF!		**A (9.0)**			**-**			**-**			-	
	D. 2027 Total - Open (See Exhibit 6B)	• LOS	**>**	**A**	**<**	**-**	**-**	**-**	**A**	**-**	**-**	**-**	**-**	**-**
		• Delay	-	8.9	-	-	-	-	7.3	-	-	-	-	-
		• 95th Queue Length (ft)	-	3	-	-	-	-	-	-	-	-	-	-
		• Approach LOS (Delay)		**A (8.9)**			**-**			**-**			-	

As shown in Table 5, under both existing and future conditions (no-build and total, with and without gated access at South Avenue), all movements at the study area intersections operate at desirable Levels of Service (at LOS "B" or better) during both peak hours studied. The 95th percentile queue lengths for exiting movements, as well as left-turn entering movements are not anticipated to exceed one vehicle, which will not impact operations on- or off-site. ***The gated or open connection to South Avenue has minimal impact on intersection operations.***

Part V. Recommendations and Conclusions

Analyses have been conducted to determine the impact from the proposed residential development on the adjacent roadway network. Overall, the development is anticipated to have a minimal effect on the existing traffic operations of the area street network.

In addition, the following recommendations should be considered to facilitate traffic both on and off site:

- The site access driveway should provide one inbound lane and one outbound lane, operating under Stop sign control.
- Secondary, emergency access should be provided via a connection to South Avenue. This access could permit for a future, full (open) access to South Avenue.

Part VI. Technical Addendum

The following *Exhibits* and *Appendices* were previously referenced. They provide technical support for our observations, findings and recommendations discussed in the text.

Exhibits

1. Location Map
2. Existing Operations
3. Existing Traffic
4. 2027 No-Build Traffic
5. Site Traffic
   a. Gated Access at South Avenue
   b. Open Access at South Avenue
6. 2027 Total Traffic
   a. Gated Access at South Avenue
   b. Open Access at South Avenue

Appendices

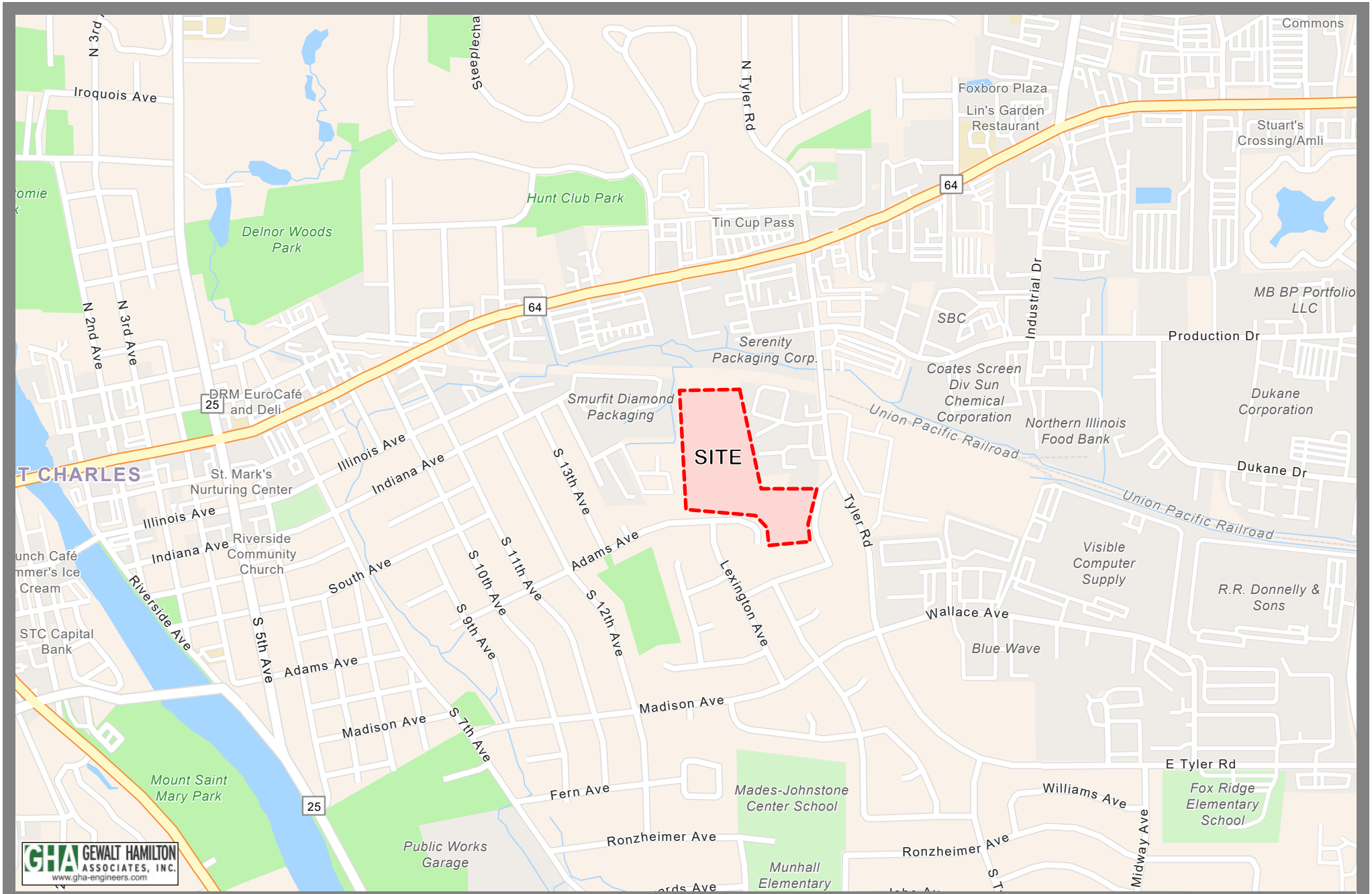
A. Photo Inventory
B. IDOT Traffic Count Summaries
C. Intersection Traffic Count Summaries
D. Crash Summary Map
E. CMAP Traffic Volume Projections
F. ITE Trip Generation Excerpts
G. Capacity Analysis Worksheets

Technical Addendum

GHA GEWALT HAMILTON ASSOCIATES, INC.

Exhibits

GHA GEWALT HAMILTON ASSOCIATES, INC.



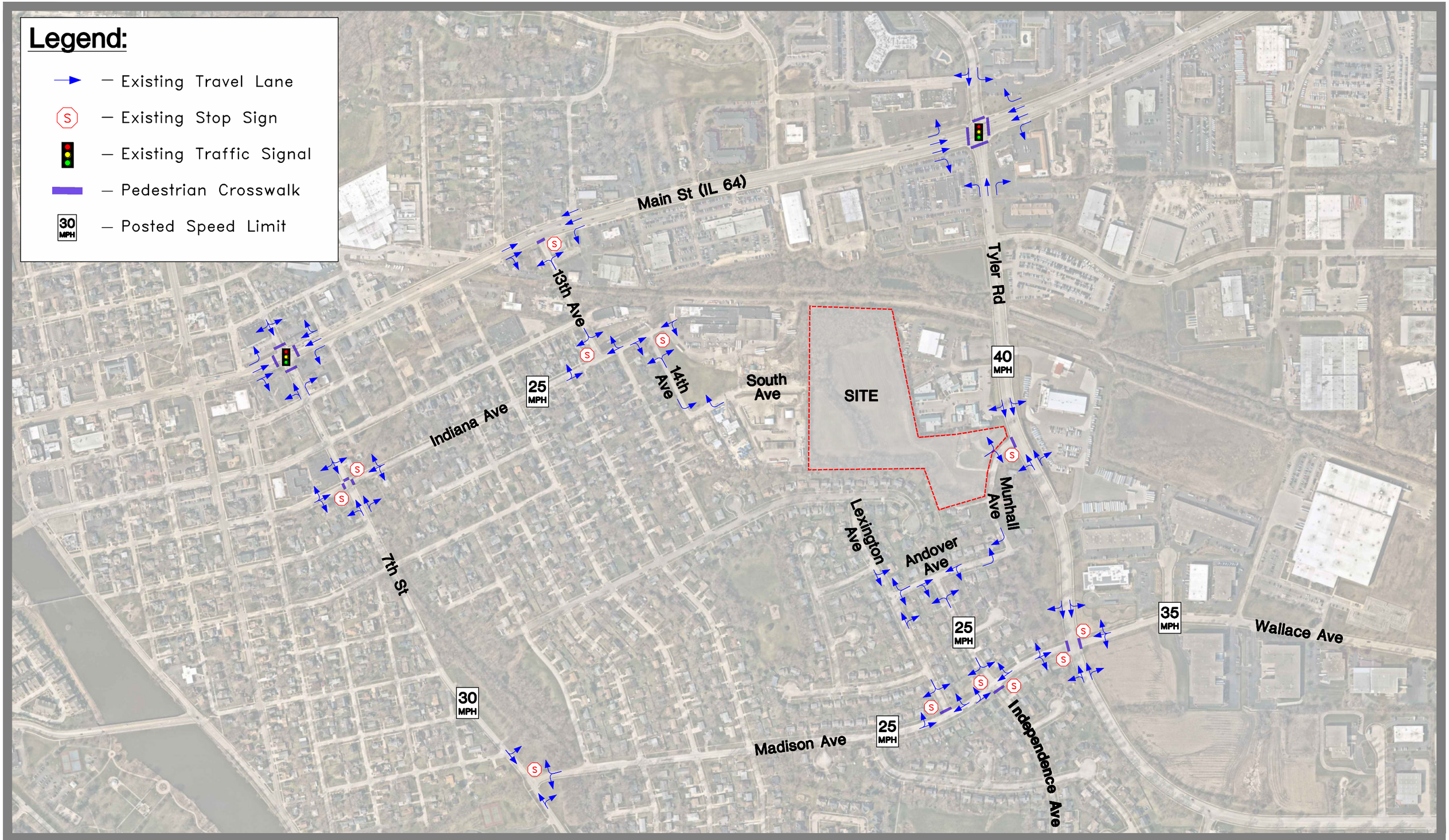
N

1 inch = 1,000 Feet

Exhibit 1 - Location Map

Proposed Residential Development
St. Charles, IL

Map Center: 88.29591°W 41.91338°N

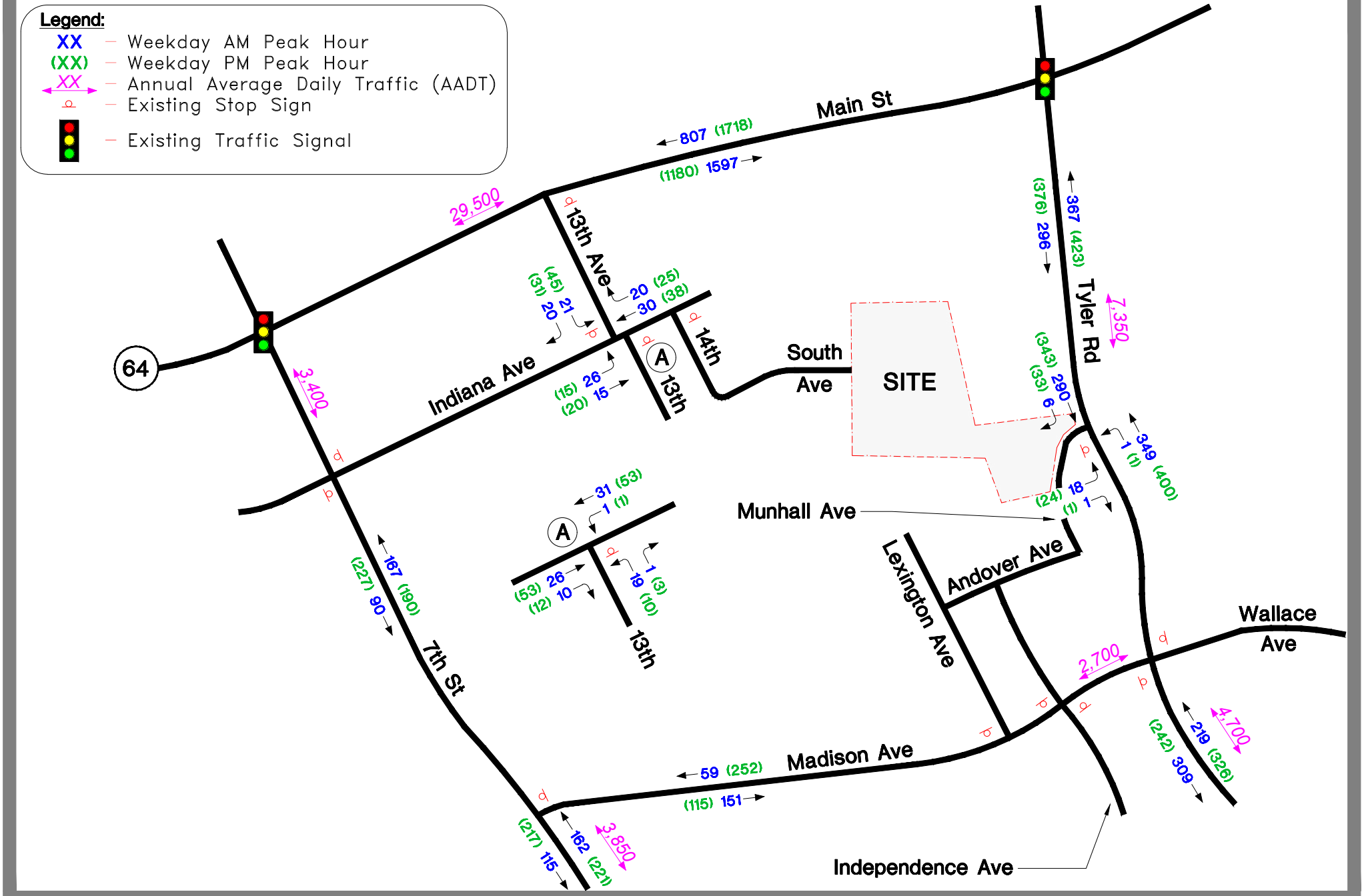


GEWALT HAMILTON ASSOCIATES, INC.

N

Not to Scale

Exhibit 2
Existing Traffic Operations



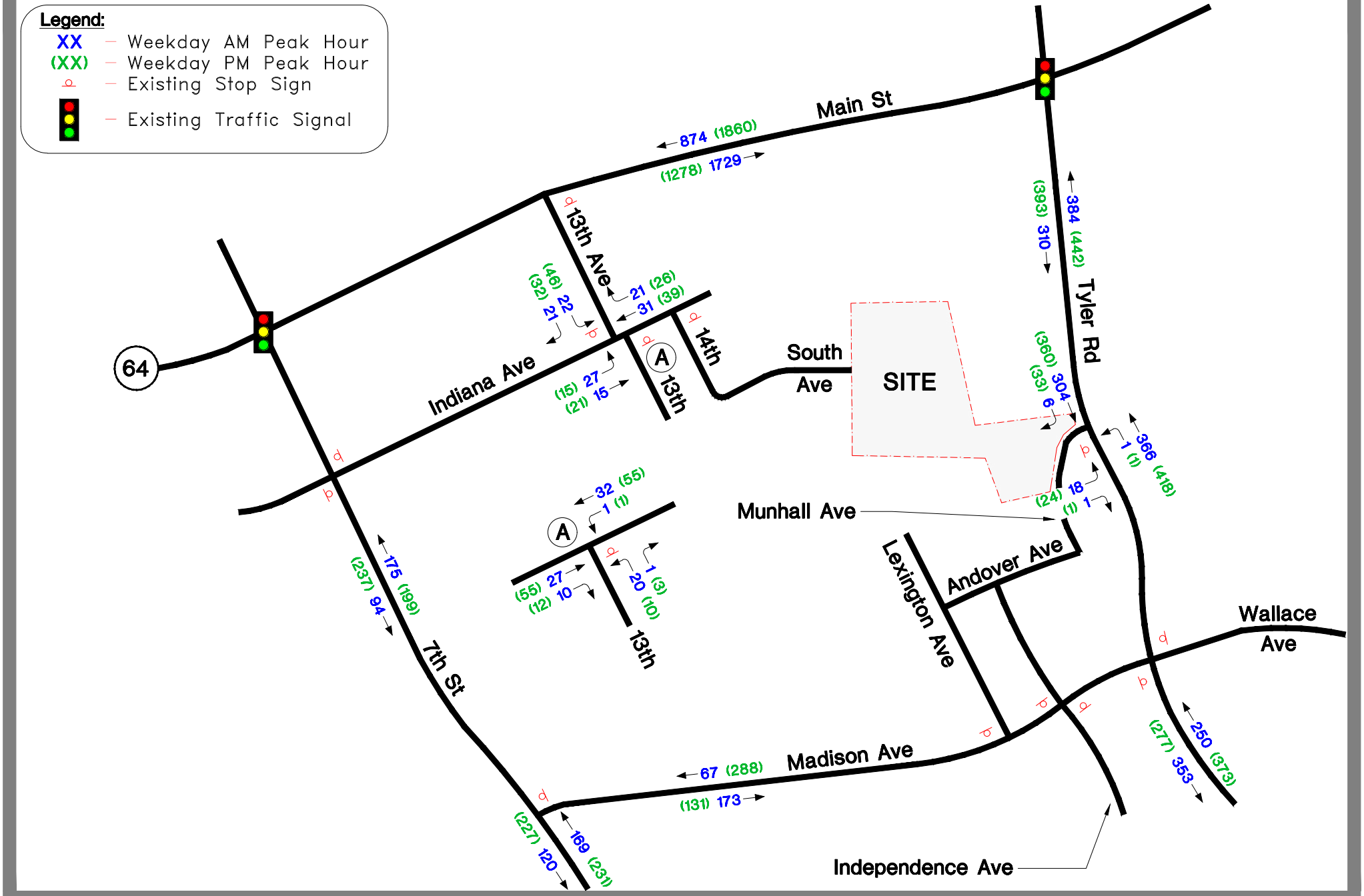
GEWALT HAMILTON ASSOCIATES, INC.

N

Not to Scale

Exhibit 3
Existing Traffic

Source: 1) IDOT 2018/2019 2) GHA August 2020

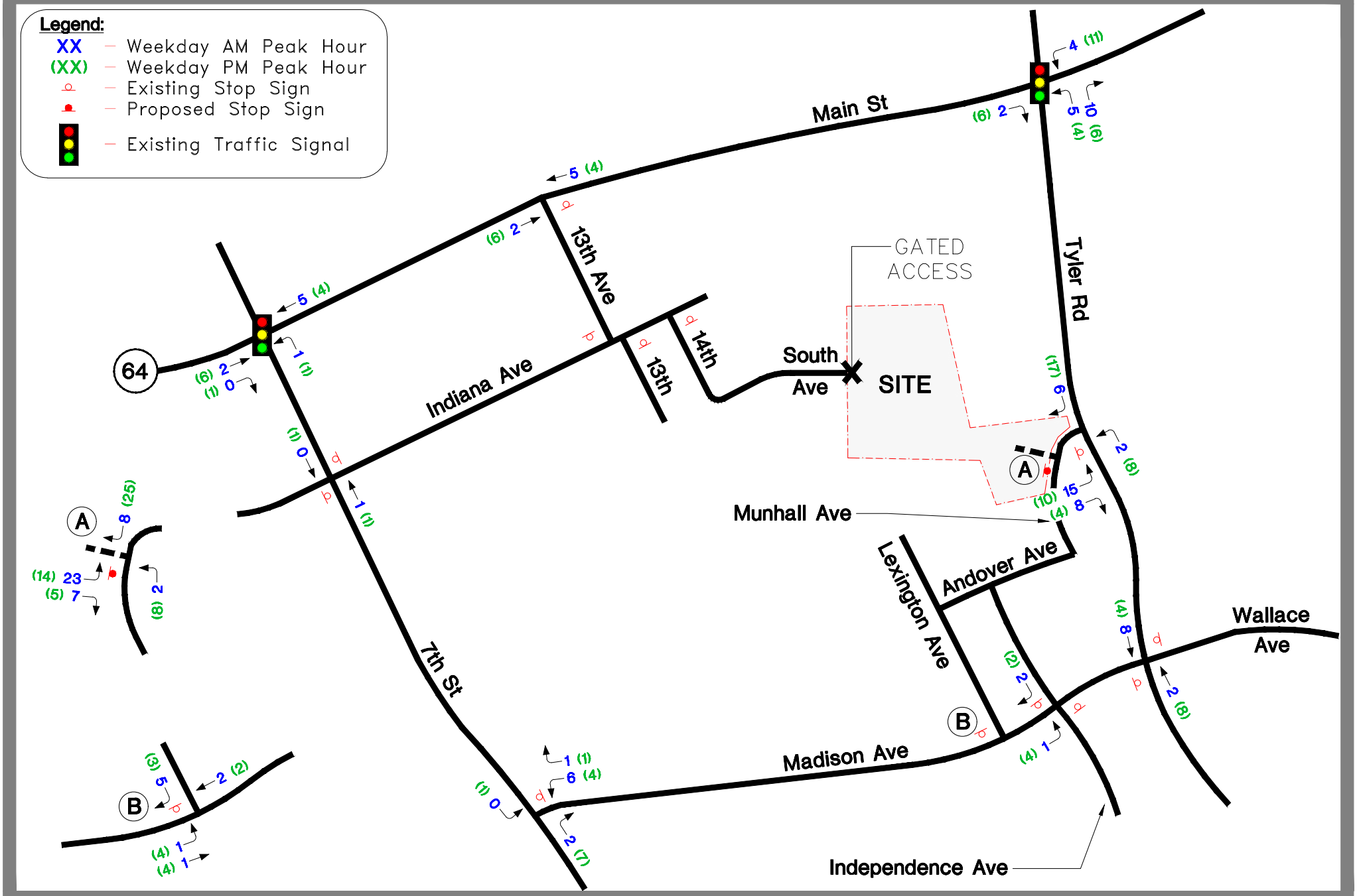


GHA GEWALT HAMILTON ASSOCIATES, INC.

N

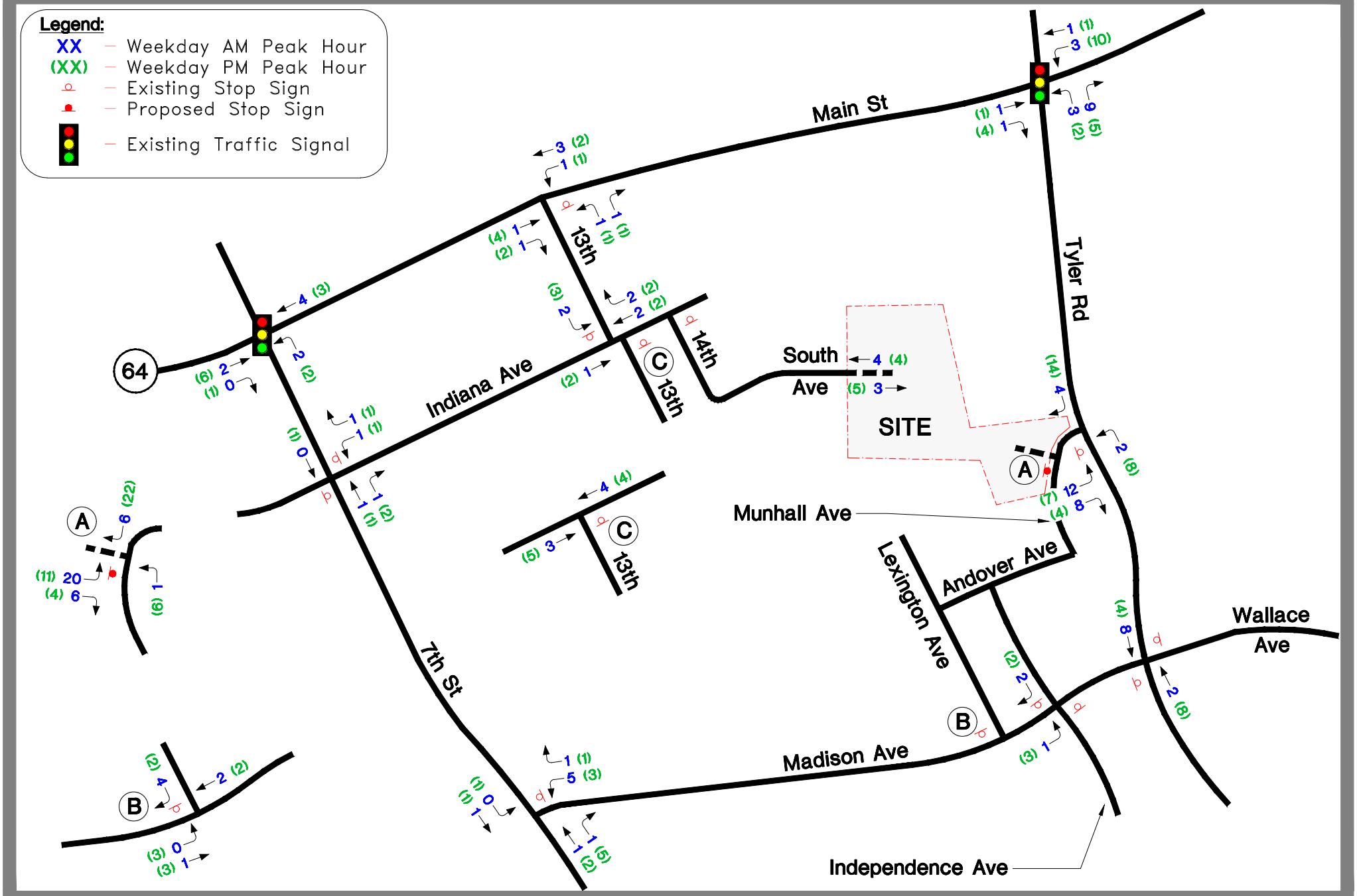
Not to Scale

Exhibit 4
2027 No-Build Traffic



GEWALT HAMILTON ASSOCIATES, INC.

Exhibit 5A
Site Traffic
(Gated access at South Ave)

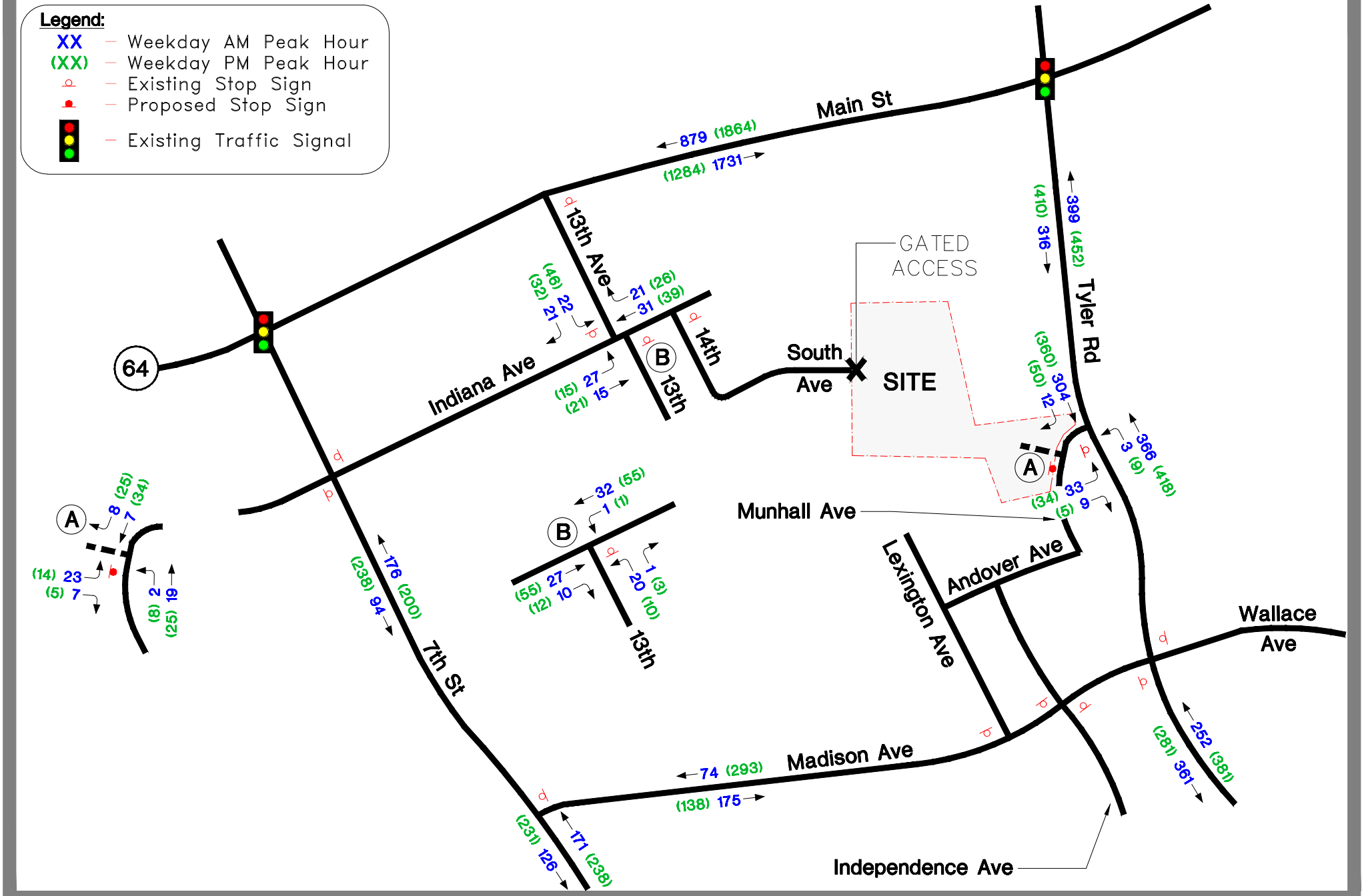


GEWALT HAMILTON ASSOCIATES, INC.

N

Not to Scale

Exhibit 5B
Site Traffic
(Open access at South Ave)

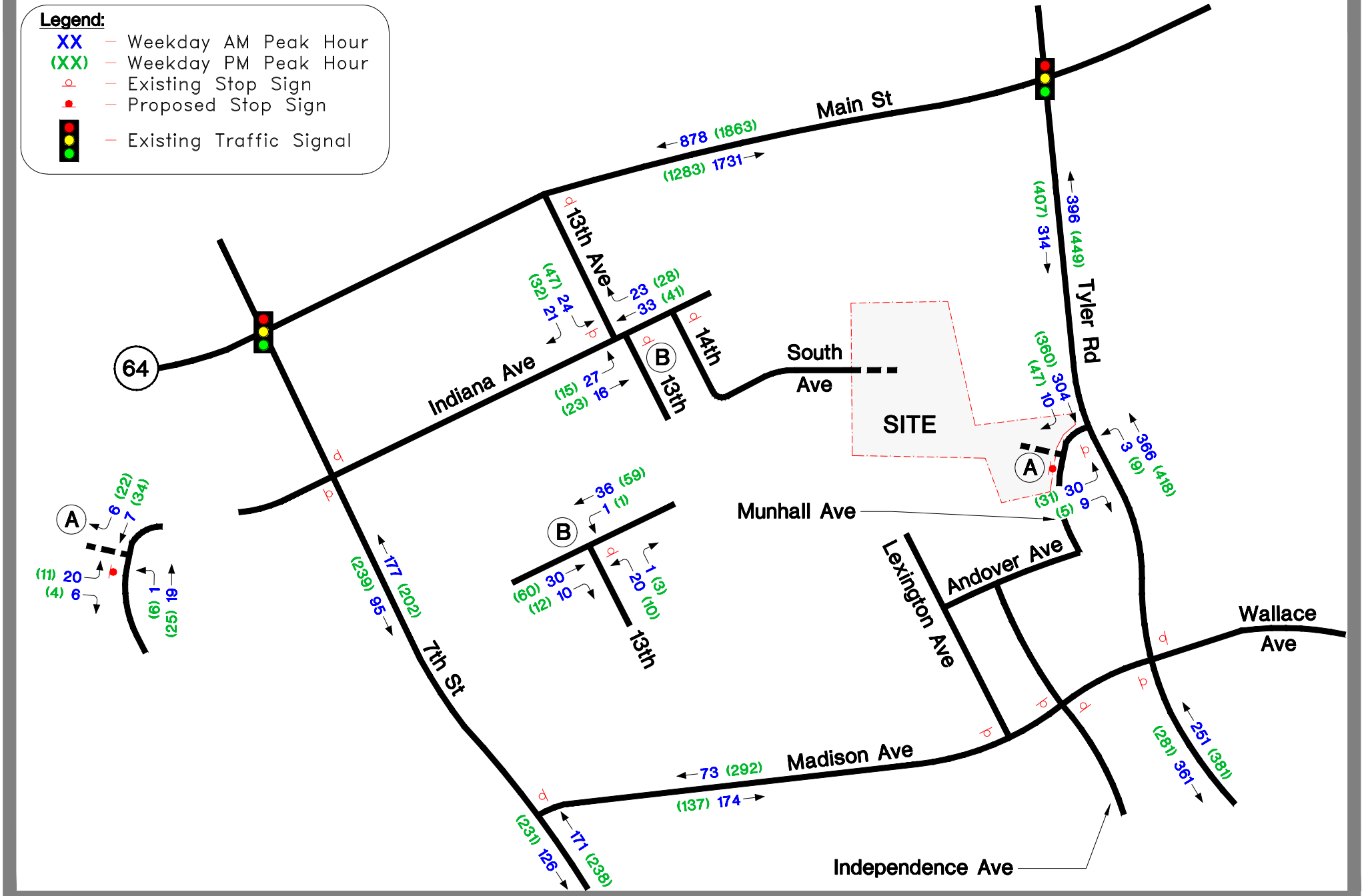


GEWALT HAMILTON ASSOCIATES, INC.

N

Not to Scale

Exhibit 6A
2027 Total Traffic
(Gated access at South Ave)


Legend:
XX – Weekday AM Peak Hour
(XX) – Weekday PM Peak Hour
– Existing Stop Sign
– Proposed Stop Sign
– Existing Traffic Signal
Main St
878 (1863)
(1283) 1731
13th Ave
(47) 24
(32) 21
23 (28)
33 (41)
14th
B
13th
(15) 27
(23) 16
Indiana Ave
64
South Ave
SITE
(407) 314
396 (449)
Tyler Rd
(360) 304
(47) 10
A
3 (9)
366 (418)
(31) 30
(5) 9
Munhall Ave
36 (59)
1 (1)
B
(60) 30
(12) 10
1 (3)
20 (10)
13th
Lexington Ave
Andover Ave
Wallace Ave
A
6 (22)
7 (34)
(11) 20
(4) 6
1 (6)
19 (25)
177 (202)
(239) 95
7th St
73 (292)
(137) 174
Madison Ave
(231) 126
171 (238)
251 (381)
(281) 361
Independence Ave
GEWALT HAMILTON ASSOCIATES, INC.
N
Not to Scale
Exhibit 6B
2027 Total Traffic
(Open access at South Ave)

Appendices

GHA GEWALT HAMILTON ASSOCIATES, INC.

Appendix A
Photo Inventory

GHA GEWALT HAMILTON ASSOCIATES, INC.

Looking east along Munhall Ave at Tyler Rd

Looking south along Tyler Rd at Munhall Ave

Looking north along Tyler Rd at Munhall Ave

Looking south along Munhall Ave at Site Access

Looking north along Munhall Ave at Site Access

Looking east along Madison Ave at Tyler Rd

Looking south along Tyler Rd at Madison Ave/Wallace Ave

Looking east along Wallace Ave at Tyler Rd

Looking north along Tyler Rd at Madison Ave/Wallace Ave

Looking west along Madison Ave at 7th St

Looking east along South Ave at Site Access

Looking west along South Ave from Site Access

Appendix B
IDOT Traffic Count Summaries

GHA GEWALT HAMILTON ASSOCIATES, INC.

Illinois Department of Transportation

MS2 Traffic Count Database System (TCDS)

Volume Count Report

LOCATION INFO	
Location ID	045 0011
Type	LINK
Fnct'l Class	3
Located On	Main St
From Road	7TH AVE
To Road	Kirk Rd
Direction	2-WAY
County	Kane
Community	ST CHARLES
MPO ID	
HPMS ID	
Agency	Illinois DOT

COUNT DATA INFO	
Count Status	Accepted
Start Date	Wed 8/28/2019
End Date	Thu 8/29/2019
Start Time	12:00:00 PM
End Time	12:00:00 PM
Direction	2-WAY
Notes	
Station	IL 64
Study	
Speed Limit	
Description	
Sensor Type	
Source	CombineVolumeCountsIncremental
Latitude,Longitude	

INTERVAL:60-MIN	
Time	**Hourly Count**
0:00-1:00	134
1:00-2:00	97
2:00-3:00	84
3:00-4:00	93
4:00-5:00	260
5:00-6:00	688
6:00-7:00	1,557
7:00-8:00	2,404
8:00-9:00	2,259
9:00-10:00	1,768
10:00-11:00	1,742
11:00-12:00	2,048
12:00-13:00	2,281
13:00-14:00	2,137
14:00-15:00	2,256
15:00-16:00	2,428
16:00-17:00	2,744
17:00-18:00	2,898
18:00-19:00	2,348
19:00-20:00	1,657
20:00-21:00	1,411
21:00-22:00	865
22:00-23:00	495
23:00-24:00	277
Total	34,931
AM Peak	07:00-08:00 2,404
PM Peak	17:00-18:00 2,898

Illinois Department of Transportation

MS2 Traffic Count Database System (TCDS)

Volume Count Report

LOCATION INFO	
Location ID	045 0011_EB
Type	LINK
Fnct'l Class	3
Located On	Main St
From Road	7TH AVE
To Road	Kirk Rd
Direction	EB
County	Kane
Community	ST CHARLES
MPO ID	
HPMS ID	
Agency	Illinois DOT

COUNT DATA INFO	
Count Status	Accepted
Start Date	Wed 8/28/2019
End Date	Thu 8/29/2019
Start Time	12:00:00 PM
End Time	12:00:00 PM
Direction	EB
Notes	
Station	IL 64
Study	
Speed Limit	
Description	
Sensor Type	
Source	CombineVolumeCountsIncremental
Latitude,Longitude	

INTERVAL:60-MIN	
Time	**Hourly Count**
0:00-1:00	47
1:00-2:00	39
2:00-3:00	46
3:00-4:00	64
4:00-5:00	175
5:00-6:00	495
6:00-7:00	1,076
7:00-8:00	1,597
8:00-9:00	1,369
9:00-10:00	917
10:00-11:00	947
11:00-12:00	1,047
12:00-13:00	1,144
13:00-14:00	1,036
14:00-15:00	1,057
15:00-16:00	1,082
16:00-17:00	1,106
17:00-18:00	1,180
18:00-19:00	958
19:00-20:00	742
20:00-21:00	673
21:00-22:00	382
22:00-23:00	226
23:00-24:00	121
Total	17,526
AM Peak	07:00-08:00 1,597
PM Peak	17:00-18:00 1,180

Illinois Department of Transportation

MS2

Traffic Count Database System (TCDS)

Volume Count Report

LOCATION INFO	
Location ID	045 0011_WB
Type	LINK
Fnct'l Class	3
Located On	Main St
From Road	7TH AVE
To Road	Kirk Rd
Direction	WB
County	Kane
Community	ST CHARLES
MPO ID	
HPMS ID	
Agency	Illinois DOT

COUNT DATA INFO	
Count Status	Accepted
Start Date	Wed 8/28/2019
End Date	Thu 8/29/2019
Start Time	12:00:00 PM
End Time	12:00:00 PM
Direction	WB
Notes	
Station	IL 64
Study	
Speed Limit	
Description	
Sensor Type	
Source	CombineVolumeCountsIncremental
Latitude,Longitude	

INTERVAL:60-MIN	
Time	**Hourly Count**
0:00-1:00	87
1:00-2:00	58
2:00-3:00	38
3:00-4:00	29
4:00-5:00	85
5:00-6:00	193
6:00-7:00	481
7:00-8:00	807
8:00-9:00	890
9:00-10:00	851
10:00-11:00	795
11:00-12:00	1,001
12:00-13:00	1,137
13:00-14:00	1,101
14:00-15:00	1,199
15:00-16:00	1,346
16:00-17:00	1,638
17:00-18:00	1,718
18:00-19:00	1,390
19:00-20:00	915
20:00-21:00	738
21:00-22:00	483
22:00-23:00	269
23:00-24:00	156
Total	17,405
AM Peak	11:00-12:00 1,001
PM Peak	17:00-18:00 1,718

Illinois Department of Transportation

MS2

Traffic Count Database System (TCDS)

Volume Count Report

LOCATION INFO	
Location ID	045 3792
Type	LINK
Fnct'l Class	5
Located On	Tyler Rd
From Road	Main St
To Road	MADISON AVE
Direction	2-WAY
County	Kane
Community	ST CHARLES
MPO ID	
HPMS ID	
Agency	Illinois DOT

COUNT DATA INFO	
Count Status	Accepted
Start Date	Tue 6/26/2018
End Date	Wed 6/27/2018
Start Time	2:00:00 PM
End Time	2:00:00 PM
Direction	2-WAY
Notes	
Station	TYLER RD
Study	
Speed Limit	
Description	
Sensor Type	
Source	CombineVolumeCountsIncremental
Latitude,Longitude	

INTERVAL:60-MIN	
Time	**Hourly Count**
0:00-1:00	45
1:00-2:00	20
2:00-3:00	13
3:00-4:00	15
4:00-5:00	36
5:00-6:00	230
6:00-7:00	407
7:00-8:00	637
8:00-9:00	604
9:00-10:00	473
10:00-11:00	490
11:00-12:00	537
12:00-13:00	605
13:00-14:00	581
14:00-15:00	602
15:00-16:00	615
16:00-17:00	799
17:00-18:00	712
18:00-19:00	532
19:00-20:00	362
20:00-21:00	240
21:00-22:00	199
22:00-23:00	127
23:00-24:00	59
Total	8,940
AM Peak	07:00-08:00 637
PM Peak	16:00-17:00 799

Illinois Department of Transportation

MS2 Traffic Count Database System (TCDS)

Volume Count Report

LOCATION INFO	
Location ID	045 3792_NB
Type	LINK
Fnct'l Class	5
Located On	Tyler Rd
From Road	Main St
To Road	MADISON AVE
Direction	NB
County	Kane
Community	ST CHARLES
MPO ID	
HPMS ID	
Agency	Illinois DOT

COUNT DATA INFO	
Count Status	Accepted
Start Date	Tue 6/26/2018
End Date	Wed 6/27/2018
Start Time	2:00:00 PM
End Time	2:00:00 PM
Direction	NB
Notes	
Station	TYLER RD
Study	
Speed Limit	
Description	
Sensor Type	
Source	CombineVolumeCountsIncremental
Latitude,Longitude	

INTERVAL:60-MIN	
Time	**Hourly Count**
0:00-1:00	21
1:00-2:00	15
2:00-3:00	7
3:00-4:00	6
4:00-5:00	17
5:00-6:00	113
6:00-7:00	191
7:00-8:00	367
8:00-9:00	316
9:00-10:00	222
10:00-11:00	246
11:00-12:00	261
12:00-13:00	310
13:00-14:00	311
14:00-15:00	292
15:00-16:00	279
16:00-17:00	423
17:00-18:00	364
18:00-19:00	291
19:00-20:00	194
20:00-21:00	133
21:00-22:00	105
22:00-23:00	70
23:00-24:00	34
Total	4,588
AM Peak	07:00-08:00 367
PM Peak	16:00-17:00 423

Volume Count Report

LOCATION INFO	
Location ID	045 3792_SB
Type	LINK
Fnct'l Class	5
Located On	Tyler Rd
From Road	Main St
To Road	MADISON AVE
Direction	SB
County	Kane
Community	ST CHARLES
MPO ID	
HPMS ID	
Agency	Illinois DOT

COUNT DATA INFO	
Count Status	Accepted
Start Date	Tue 6/26/2018
End Date	Wed 6/27/2018
Start Time	2:00:00 PM
End Time	2:00:00 PM
Direction	SB
Notes	
Station	TYLER RD
Study	
Speed Limit	
Description	
Sensor Type	
Source	CombineVolumeCountsIncremental
Latitude,Longitude	

INTERVAL:60-MIN	
Time	**Hourly Count**
0:00-1:00	24
1:00-2:00	5
2:00-3:00	6
3:00-4:00	9
4:00-5:00	19
5:00-6:00	117
6:00-7:00	216
7:00-8:00	270
8:00-9:00	288
9:00-10:00	251
10:00-11:00	244
11:00-12:00	276
12:00-13:00	295
13:00-14:00	270
14:00-15:00	310
15:00-16:00	336
16:00-17:00	376
17:00-18:00	348
18:00-19:00	241
19:00-20:00	168
20:00-21:00	107
21:00-22:00	94
22:00-23:00	57
23:00-24:00	25
Total	4,352
AM Peak	08:00-09:00 288
PM Peak	16:00-17:00 376

Volume Count Report

LOCATION INFO	
Location ID	045 3793
Type	LINK
Fnct'l Class	5
Located On	Tyler Rd
From Road	MADISON AVE
To Road	Kirk Rd
Direction	2-WAY
County	Kane
Community	ST CHARLES
MPO ID	
HPMS ID	
Agency	Illinois DOT

COUNT DATA INFO	
Count Status	Accepted
Start Date	Thu 7/19/2018
End Date	Fri 7/20/2018
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	2-WAY
Notes	
Station	TYLER RD
Study	
Speed Limit	
Description	
Sensor Type	
Source	CombineVolumeCountsIncremental
Latitude,Longitude	

INTERVAL:60-MIN	
Time	**Hourly Count**
0:00-1:00	35
1:00-2:00	13
2:00-3:00	8
3:00-4:00	10
4:00-5:00	43
5:00-6:00	167
6:00-7:00	319
7:00-8:00	528
8:00-9:00	491
9:00-10:00	339
10:00-11:00	355
11:00-12:00	316
12:00-13:00	370
13:00-14:00	334
14:00-15:00	397
15:00-16:00	442
16:00-17:00	532
17:00-18:00	568
18:00-19:00	350
19:00-20:00	272
20:00-21:00	221
21:00-22:00	189
22:00-23:00	138
23:00-24:00	74
Total	6,511
AM Peak	07:00-08:00 528
PM Peak	17:00-18:00 568

Volume Count Report

LOCATION INFO	
Location ID	045 3793_NB
Type	LINK
Fnct'l Class	5
Located On	Tyler Rd
From Road	MADISON AVE
To Road	Kirk Rd
Direction	NB
County	Kane
Community	ST CHARLES
MPO ID	
HPMS ID	
Agency	Illinois DOT

COUNT DATA INFO	
Count Status	Accepted
Start Date	Thu 7/19/2018
End Date	Fri 7/20/2018
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	NB
Notes	
Station	TYLER RD
Study	
Speed Limit	
Description	
Sensor Type	
Source	CombineVolumeCountsIncremental
Latitude,Longitude	

INTERVAL:60-MIN	
Time	**Hourly Count**
0:00-1:00	14
1:00-2:00	9
2:00-3:00	1
3:00-4:00	4
4:00-5:00	10
5:00-6:00	68
6:00-7:00	132
7:00-8:00	219
8:00-9:00	220
9:00-10:00	184
10:00-11:00	187
11:00-12:00	176
12:00-13:00	200
13:00-14:00	188
14:00-15:00	228
15:00-16:00	261
16:00-17:00	327
17:00-18:00	326
18:00-19:00	198
19:00-20:00	157
20:00-21:00	123
21:00-22:00	109
22:00-23:00	86
23:00-24:00	42
Total	3,469
AM Peak	08:00-09:00 220
PM Peak	16:00-17:00 327

Volume Count Report

LOCATION INFO	
Location ID	045 3793_SB
Type	LINK
Fnct'l Class	5
Located On	Tyler Rd
From Road	MADISON AVE
To Road	Kirk Rd
Direction	SB
County	Kane
Community	ST CHARLES
MPO ID	
HPMS ID	
Agency	Illinois DOT

COUNT DATA INFO	
Count Status	Accepted
Start Date	Thu 7/19/2018
End Date	Fri 7/20/2018
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	SB
Notes	
Station	TYLER RD
Study	
Speed Limit	
Description	
Sensor Type	
Source	CombineVolumeCountsIncremental
Latitude,Longitude	

INTERVAL:60-MIN	
Time	**Hourly Count**
0:00-1:00	21
1:00-2:00	4
2:00-3:00	7
3:00-4:00	6
4:00-5:00	33
5:00-6:00	99
6:00-7:00	187
7:00-8:00	309
8:00-9:00	271
9:00-10:00	155
10:00-11:00	168
11:00-12:00	140
12:00-13:00	170
13:00-14:00	146
14:00-15:00	169
15:00-16:00	181
16:00-17:00	205
17:00-18:00	242
18:00-19:00	152
19:00-20:00	115
20:00-21:00	98
21:00-22:00	80
22:00-23:00	52
23:00-24:00	32
Total	3,042
AM Peak	07:00-08:00 309
PM Peak	17:00-18:00 242

Volume Count Report

LOCATION INFO	
Location ID	045 3640
Type	LINK
Fnct'l Class	5
Located On	MADISON AVE
From Road	7TH AVE
To Road	Tyler Rd
Direction	2-WAY
County	Kane
Community	ST CHARLES
MPO ID	
HPMS ID	
Agency	Illinois DOT

COUNT DATA INFO	
Count Status	Accepted
Start Date	Thu 7/19/2018
End Date	Fri 7/20/2018
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	2-WAY
Notes	
Station	MADISON AVE
Study	
Speed Limit	
Description	
Sensor Type	
Source	CombineVolumeCountsIncremental
Latitude,Longitude	

INTERVAL:60-MIN	
Time	**Hourly Count**
0:00-1:00	14
1:00-2:00	10
2:00-3:00	7
3:00-4:00	11
4:00-5:00	17
5:00-6:00	55
6:00-7:00	129
7:00-8:00	207
8:00-9:00	210
9:00-10:00	126
10:00-11:00	150
11:00-12:00	181
12:00-13:00	218
13:00-14:00	160
14:00-15:00	178
15:00-16:00	230
16:00-17:00	275
17:00-18:00	367
18:00-19:00	231
19:00-20:00	138
20:00-21:00	109
21:00-22:00	103
22:00-23:00	69
23:00-24:00	39
Total	3,234
AM Peak	08:00-09:00 210
PM Peak	17:00-18:00 367

Volume Count Report

LOCATION INFO	
Location ID	045 3640_EB
Type	LINK
Fnct'l Class	5
Located On	MADISON AVE
From Road	7TH AVE
To Road	Tyler Rd
Direction	EB
County	Kane
Community	ST CHARLES
MPO ID	
HPMS ID	
Agency	Illinois DOT

COUNT DATA INFO	
Count Status	Accepted
Start Date	Thu 7/19/2018
End Date	Fri 7/20/2018
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	EB
Notes	
Station	MADISON AVE
Study	
Speed Limit	
Description	
Sensor Type	
Source	CombineVolumeCountsIncremental
Latitude,Longitude	

INTERVAL:60-MIN	
Time	**Hourly Count**
0:00-1:00	5
1:00-2:00	2
2:00-3:00	6
3:00-4:00	5
4:00-5:00	15
5:00-6:00	50
6:00-7:00	101
7:00-8:00	166
8:00-9:00	151
9:00-10:00	78
10:00-11:00	76
11:00-12:00	78
12:00-13:00	100
13:00-14:00	83
14:00-15:00	76
15:00-16:00	68
16:00-17:00	77
17:00-18:00	115
18:00-19:00	100
19:00-20:00	68
20:00-21:00	46
21:00-22:00	40
22:00-23:00	28
23:00-24:00	7
Total	1,541
AM Peak	07:00-08:00 166
PM Peak	17:00-18:00 115

Volume Count Report

LOCATION INFO	
Location ID	045 3640_WB
Type	LINK
Fnct'l Class	5
Located On	MADISON AVE
From Road	7TH AVE
To Road	Tyler Rd
Direction	WB
County	Kane
Community	ST CHARLES
MPO ID	
HPMS ID	
Agency	Illinois DOT

COUNT DATA INFO	
Count Status	Accepted
Start Date	Thu 7/19/2018
End Date	Fri 7/20/2018
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	WB
Notes	
Station	MADISON AVE
Study	
Speed Limit	
Description	
Sensor Type	
Source	CombineVolumeCountsIncremental
Latitude,Longitude	

INTERVAL:60-MIN	
Time	**Hourly Count**
0:00-1:00	9
1:00-2:00	8
2:00-3:00	1
3:00-4:00	6
4:00-5:00	2
5:00-6:00	5
6:00-7:00	28
7:00-8:00	41
8:00-9:00	59
9:00-10:00	48
10:00-11:00	74
11:00-12:00	103
12:00-13:00	118
13:00-14:00	77
14:00-15:00	102
15:00-16:00	162
16:00-17:00	198
17:00-18:00	252
18:00-19:00	131
19:00-20:00	70
20:00-21:00	63
21:00-22:00	63
22:00-23:00	41
23:00-24:00	32
Total	1,693
AM Peak	11:00-12:00 103
PM Peak	17:00-18:00 252

Volume Count Report

LOCATION INFO	
Location ID	045 3794
Type	LINK
Fnct'l Class	5
Located On	7TH AVE
From Road	Main St
To Road	MADISON AVE
Direction	2-WAY
County	Kane
Community	ST CHARLES
MPO ID	
HPMS ID	
Agency	Illinois DOT

COUNT DATA INFO	
Count Status	Accepted
Start Date	Tue 6/26/2018
End Date	Wed 6/27/2018
Start Time	2:00:00 PM
End Time	2:00:00 PM
Direction	2-WAY
Notes	
Station	7TH AVE
Study	
Speed Limit	
Description	
Sensor Type	
Source	CombineVolumeCountsIncremental
Latitude,Longitude	

INTERVAL:60-MIN	
Time	**Hourly Count**
0:00-1:00	17
1:00-2:00	11
2:00-3:00	8
3:00-4:00	10
4:00-5:00	14
5:00-6:00	57
6:00-7:00	148
7:00-8:00	257
8:00-9:00	255
9:00-10:00	257
10:00-11:00	279
11:00-12:00	287
12:00-13:00	292
13:00-14:00	286
14:00-15:00	263
15:00-16:00	320
16:00-17:00	395
17:00-18:00	417
18:00-19:00	296
19:00-20:00	194
20:00-21:00	116
21:00-22:00	89
22:00-23:00	62
23:00-24:00	33
Total	4,363
AM Peak	11:00-12:00 287
PM Peak	17:00-18:00 417

Volume Count Report

LOCATION INFO	
Location ID	045 3794_NB
Type	LINK
Fnct'l Class	5
Located On	7TH AVE
From Road	Main St
To Road	MADISON AVE
Direction	NB
County	Kane
Community	ST CHARLES
MPO ID	
HPMS ID	
Agency	Illinois DOT

COUNT DATA INFO	
Count Status	Accepted
Start Date	Tue 6/26/2018
End Date	Wed 6/27/2018
Start Time	2:00:00 PM
End Time	2:00:00 PM
Direction	NB
Notes	
Station	7TH AVE
Study	
Speed Limit	
Description	
Sensor Type	
Source	CombineVolumeCountsIncremental
Latitude,Longitude	

INTERVAL:60-MIN	
Time	**Hourly Count**
0:00-1:00	6
1:00-2:00	3
2:00-3:00	4
3:00-4:00	5
4:00-5:00	9
5:00-6:00	37
6:00-7:00	89
7:00-8:00	167
8:00-9:00	152
9:00-10:00	125
10:00-11:00	146
11:00-12:00	146
12:00-13:00	140
13:00-14:00	126
14:00-15:00	115
15:00-16:00	146
16:00-17:00	162
17:00-18:00	190
18:00-19:00	118
19:00-20:00	71
20:00-21:00	39
21:00-22:00	25
22:00-23:00	24
23:00-24:00	13
Total	2,058
AM Peak	07:00-08:00 167
PM Peak	17:00-18:00 190

Volume Count Report

LOCATION INFO	
Location ID	045 3794_SB
Type	LINK
Fnct'l Class	5
Located On	7TH AVE
From Road	Main St
To Road	MADISON AVE
Direction	SB
County	Kane
Community	ST CHARLES
MPO ID	
HPMS ID	
Agency	Illinois DOT

COUNT DATA INFO	
Count Status	Accepted
Start Date	Tue 6/26/2018
End Date	Wed 6/27/2018
Start Time	2:00:00 PM
End Time	2:00:00 PM
Direction	SB
Notes	
Station	7TH AVE
Study	
Speed Limit	
Description	
Sensor Type	
Source	CombineVolumeCountsIncremental
Latitude,Longitude	

INTERVAL:60-MIN	
Time	**Hourly Count**
0:00-1:00	11
1:00-2:00	8
2:00-3:00	4
3:00-4:00	5
4:00-5:00	5
5:00-6:00	20
6:00-7:00	59
7:00-8:00	90
8:00-9:00	103
9:00-10:00	132
10:00-11:00	133
11:00-12:00	141
12:00-13:00	152
13:00-14:00	160
14:00-15:00	148
15:00-16:00	174
16:00-17:00	233
17:00-18:00	227
18:00-19:00	178
19:00-20:00	123
20:00-21:00	77
21:00-22:00	64
22:00-23:00	38
23:00-24:00	20
Total	2,305
AM Peak	11:00-12:00 141
PM Peak	16:00-17:00 233

Volume Count Report

LOCATION INFO	
Location ID	045 3795
Type	LINK
Fnct'l Class	5
Located On	7TH AVE
From Road	MADISON AVE
To Road	State St
Direction	2-WAY
County	Kane
Community	ST CHARLES
MPO ID	
HPMS ID	
Agency	Illinois DOT

COUNT DATA INFO	
Count Status	Accepted
Start Date	Tue 6/26/2018
End Date	Wed 6/27/2018
Start Time	2:00:00 PM
End Time	2:00:00 PM
Direction	2-WAY
Notes	
Station	7TH AVE
Study	
Speed Limit	
Description	
Sensor Type	
Source	CombineVolumeCountsIncremental
Latitude,Longitude	

INTERVAL:60-MIN	
Time	**Hourly Count**
0:00-1:00	17
1:00-2:00	12
2:00-3:00	8
3:00-4:00	17
4:00-5:00	15
5:00-6:00	69
6:00-7:00	158
7:00-8:00	269
8:00-9:00	277
9:00-10:00	238
10:00-11:00	266
11:00-12:00	304
12:00-13:00	315
13:00-14:00	311
14:00-15:00	265
15:00-16:00	349
16:00-17:00	438
17:00-18:00	429
18:00-19:00	318
19:00-20:00	208
20:00-21:00	124
21:00-22:00	107
22:00-23:00	65
23:00-24:00	48
Total	4,627
AM Peak	11:00-12:00 304
PM Peak	16:00-17:00 438

Volume Count Report

LOCATION INFO	
Location ID	045 3795_NB
Type	LINK
Fnct'l Class	5
Located On	7TH AVE
From Road	MADISON AVE
To Road	State St
Direction	NB
County	Kane
Community	ST CHARLES
MPO ID	
HPMS ID	
Agency	Illinois DOT

COUNT DATA INFO	
Count Status	Accepted
Start Date	Tue 6/26/2018
End Date	Wed 6/27/2018
Start Time	2:00:00 PM
End Time	2:00:00 PM
Direction	NB
Notes	
Station	7TH AVE
Study	
Speed Limit	
Description	
Sensor Type	
Source	CombineVolumeCountsIncremental
Latitude,Longitude	

INTERVAL:60-MIN	
Time	**Hourly Count**
0:00-1:00	12
1:00-2:00	7
2:00-3:00	6
3:00-4:00	12
4:00-5:00	7
5:00-6:00	39
6:00-7:00	89
7:00-8:00	146
8:00-9:00	162
9:00-10:00	117
10:00-11:00	123
11:00-12:00	170
12:00-13:00	173
13:00-14:00	168
14:00-15:00	133
15:00-16:00	183
16:00-17:00	221
17:00-18:00	236
18:00-19:00	163
19:00-20:00	105
20:00-21:00	72
21:00-22:00	49
22:00-23:00	35
23:00-24:00	25
Total	2,453
AM Peak	11:00-12:00 170
PM Peak	17:00-18:00 236

Volume Count Report

LOCATION INFO	
Location ID	045 3795_SB
Type	LINK
Fnct'l Class	5
Located On	7TH AVE
From Road	MADISON AVE
To Road	State St
Direction	SB
County	Kane
Community	ST CHARLES
MPO ID	
HPMS ID	
Agency	Illinois DOT

COUNT DATA INFO	
Count Status	Accepted
Start Date	Tue 6/26/2018
End Date	Wed 6/27/2018
Start Time	2:00:00 PM
End Time	2:00:00 PM
Direction	SB
Notes	
Station	7TH AVE
Study	
Speed Limit	
Description	
Sensor Type	
Source	CombineVolumeCountsIncremental
Latitude,Longitude	

INTERVAL:60-MIN	
Time	**Hourly Count**
0:00-1:00	5
1:00-2:00	5
2:00-3:00	2
3:00-4:00	5
4:00-5:00	8
5:00-6:00	30
6:00-7:00	69
7:00-8:00	123
8:00-9:00	115
9:00-10:00	121
10:00-11:00	143
11:00-12:00	134
12:00-13:00	142
13:00-14:00	143
14:00-15:00	132
15:00-16:00	166
16:00-17:00	217
17:00-18:00	193
18:00-19:00	155
19:00-20:00	103
20:00-21:00	52
21:00-22:00	58
22:00-23:00	30
23:00-24:00	23
Total	2,174
AM Peak	10:00-11:00 143
PM Peak	16:00-17:00 217

Appendix C
Intersection Traffic Count Summaries

GHA GEWALT HAMILTON ASSOCIATES, INC.

Tyler Rd / Munhall Ave - TMC
Tue Aug 25, 2020
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)
All Movements
ID: 776044, Location: 41.913573, -88.291841

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg	Munhall					Tyler					Tyler					
Direction	Eastbound					Northbound					Southbound					
Time	L	R	U	App	Ped*	L	T	U	App	Ped*	T	R	U	App	Ped*	Int
2020-08-25 7:00AM	7	0	0	**7**	0	0	48	0	**48**	0	48	2	0	**50**	0	**105**
7:15AM	7	0	0	**7**	0	0	49	0	**49**	0	63	3	0	**66**	0	**122**
7:30AM	6	0	0	**6**	0	0	54	0	**54**	0	62	4	0	**66**	0	**126**
7:45AM	1	0	0	**1**	0	0	84	0	**84**	0	83	0	0	**83**	0	**168**
Hourly Total	21	0	0	**21**	0	0	235	0	**235**	0	256	9	0	**265**	0	**521**
8:00AM	3	0	0	**3**	0	0	66	0	**66**	0	68	1	1	**70**	0	**139**
8:15AM	3	0	0	**3**	0	0	48	0	**48**	0	77	1	0	**78**	0	**129**
8:30AM	3	1	0	**4**	0	0	54	0	**54**	0	60	4	0	**64**	0	**122**
8:45AM	2	0	0	**2**	0	0	73	0	**73**	0	63	1	0	**64**	0	**139**
Hourly Total	11	1	0	**12**	0	0	241	0	**241**	0	268	7	1	**276**	0	**529**
4:00PM	4	0	0	**4**	0	1	77	0	**78**	0	91	10	0	**101**	0	**183**
4:15PM	2	0	0	**2**	0	0	61	0	**61**	0	72	6	0	**78**	0	**141**
4:30PM	1	0	0	**1**	0	1	74	0	**75**	0	76	10	0	**86**	0	**162**
4:45PM	5	0	0	**5**	0	0	52	0	**52**	1	87	7	0	**94**	0	**151**
Hourly Total	12	0	0	**12**	0	2	264	0	**266**	1	326	33	0	**359**	0	**637**
5:00PM	4	0	0	**4**	1	0	73	0	**73**	0	84	7	0	**91**	0	**168**
5:15PM	6	0	0	**6**	0	0	73	0	**73**	0	89	8	0	**97**	0	**176**
5:30PM	6	0	0	**6**	0	1	56	0	**57**	0	79	8	0	**87**	0	**150**
5:45PM	6	0	0	**6**	0	0	59	0	**59**	0	54	6	0	**60**	0	**125**
Hourly Total	22	0	0	**22**	1	1	261	0	**262**	0	306	29	0	**335**	0	**619**
Total	66	1	0	**67**	1	3	1001	0	**1004**	1	1156	78	1	**1235**	0	**2306**
% Approach	98.5%	1.5%	0%	**-**	-	0.3%	99.7%	0%	**-**	-	93.6%	6.3%	0.1%	**-**	-	-
% Total	2.9%	0%	0%	**2.9%**	-	0.1%	43.4%	0%	**43.5%**	-	50.1%	3.4%	0%	**53.6%**	-	-
Lights	65	1	0	**66**	-	3	982	0	**985**	-	1122	77	1	**1200**	-	2251
% Lights	98.5%	100%	0%	**98.5%**	-	100%	98.1%	0%	**98.1%**	-	97.1%	98.7%	100%	**97.2%**	-	97.6%
Articulated Trucks	0	0	0	**0**	-	0	2	0	**2**	-	6	0	0	**6**	-	8
% Articulated Trucks	0%	0%	0%	**0%**	-	0%	0.2%	0%	**0.2%**	-	0.5%	0%	0%	**0.5%**	-	0.3%
Buses and Single-Unit Trucks	1	0	0	**1**	-	0	17	0	**17**	-	28	1	0	**29**	-	47
% Buses and Single-Unit Trucks	1.5%	0%	0%	**1.5%**	-	0%	1.7%	0%	**1.7%**	-	2.4%	1.3%	0%	**2.3%**	-	2.0%
Pedestrians	-	-	-	-	1	-	-	-	-	1	-	-	-	-	0	
% Pedestrians	-	-	-	-	100%	-	-	-	-	100%	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Tyler Rd / Munhall Ave - TMC
Tue Aug 25, 2020
AM Peak (7:30 AM - 8:30 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)
All Movements
ID: 776044, Location: 41.913573, -88.291841

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg / Direction	Munhall Eastbound					Tyler Northbound					Tyler Southbound					
Time	L	R	U	**App**	Ped*	L	T	U	**App**	Ped*	T	R	U	**App**	Ped*	**Int**
2020-08-25 7:30AM	6	0	0	**6**	0	0	54	0	**54**	0	62	4	0	**66**	0	**126**
7:45AM	1	0	0	**1**	0	0	84	0	**84**	0	83	0	0	**83**	0	**168**
8:00AM	3	0	0	**3**	0	0	66	0	**66**	0	68	1	1	**70**	0	**139**
8:15AM	3	0	0	**3**	0	0	48	0	**48**	0	77	1	0	**78**	0	**129**
Total	13	0	0	**13**	0	0	252	0	**252**	0	290	6	1	**297**	0	**562**
% Approach	100%	0%	0%	**-**	-	0%	100%	0%	**-**	-	97.6%	2.0%	0.3%	**-**	-	-
% Total	2.3%	0%	0%	**2.3%**	-	0%	44.8%	0%	**44.8%**	-	51.6%	1.1%	0.2%	**52.8%**	-	-
PHF	0.542	-	-	**0.542**	-	-	0.750	-	**0.750**	-	0.873	0.375	0.250	**0.895**	-	0.836
Lights	12	0	0	**12**	-	0	245	0	**245**	-	280	6	1	**287**	-	544
% Lights	92.3%	0%	0%	**92.3%**	-	0%	97.2%	0%	**97.2%**	-	96.6%	100%	100%	**96.6%**	-	96.8%
Articulated Trucks	0	0	0	**0**	-	0	0	0	**0**	-	3	0	0	**3**	-	3
% Articulated Trucks	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	1.0%	0%	0%	**1.0%**	-	0.5%
Buses and Single-Unit Trucks	1	0	0	**1**	-	0	7	0	**7**	-	7	0	0	**7**	-	15
% Buses and Single-Unit Trucks	7.7%	0%	0%	**7.7%**	-	0%	2.8%	0%	**2.8%**	-	2.4%	0%	0%	**2.4%**	-	2.7%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Tyler Rd / Munhall Ave - TMC
Tue Aug 25, 2020
PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)
All Movements
ID: 776044, Location: 41.913573, -88.291841

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg / Direction	Munhall Eastbound					Tyler Northbound					Tyler Southbound					
Time	L	R	U	**App**	Ped*	L	T	U	**App**	Ped*	T	R	U	**App**	Ped*	**Int**
2020-08-25 4:30PM	1	0	0	**1**	0	1	74	0	**75**	0	76	10	0	**86**	0	**162**
4:45PM	5	0	0	**5**	0	0	52	0	**52**	1	87	7	0	**94**	0	**151**
5:00PM	4	0	0	**4**	1	0	73	0	**73**	0	84	7	0	**91**	0	**168**
5:15PM	6	0	0	**6**	0	0	73	0	**73**	0	89	8	0	**97**	0	**176**
Total	16	0	0	**16**	1	1	272	0	**273**	1	336	32	0	**368**	0	**657**
% Approach	100%	0%	0%	-	-	0.4%	99.6%	0%	-	-	91.3%	8.7%	0%	-	-	-
% Total	2.4%	0%	0%	**2.4%**	-	0.2%	41.4%	0%	**41.6%**	-	51.1%	4.9%	0%	**56.0%**	-	-
PHF	0.667	-	-	**0.667**	-	0.250	0.919	-	**0.910**	-	0.944	0.800	-	**0.948**	-	0.933
Lights	16	0	0	**16**	-	1	267	0	**268**	-	332	32	0	**364**	-	648
% Lights	100%	0%	0%	**100%**	-	100%	98.2%	0%	**98.2%**	-	98.8%	100%	0%	**98.9%**	-	98.6%
Articulated Trucks	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Buses and Single-Unit Trucks	0	0	0	**0**	-	0	5	0	**5**	-	4	0	0	**4**	-	9
% Buses and Single-Unit Trucks	0%	0%	0%	**0%**	-	0%	1.8%	0%	**1.8%**	-	1.2%	0%	0%	**1.1%**	-	1.4%
Pedestrians	-	-	-	-	1	-	-	-	-	1	-	-	-	-	0	
% Pedestrians	-	-	-	-	100%	-	-	-	-	100%	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Indiana Ave / 13th Ave (N Leg) - TMC

Tue Aug 25, 2020
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)
All Movements
ID: 776045, Location: 41.914851, -88.300412

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg / Direction	Indiana Ave Eastbound					Indiana Ave Westbound					13th Ave Southbound					
Time	L	T	U	**App**	Ped*	T	R	U	**App**	Ped*	L	R	U	**App**	Ped*	**Int**
2020-08-25 7:00AM	6	4	0	**10**	0	3	1	0	**4**	0	5	1	0	**6**	0	**20**
7:15AM	4	3	0	**7**	0	8	2	0	**10**	0	3	2	0	**5**	0	**22**
7:30AM	4	2	0	**6**	0	7	5	0	**12**	0	3	5	0	**8**	0	**26**
7:45AM	7	3	0	**10**	0	3	6	0	**9**	0	6	8	0	**14**	0	**33**
Hourly Total	21	12	0	**33**	0	21	14	0	**35**	0	17	16	0	**33**	0	**101**
8:00AM	5	2	0	**7**	0	7	2	0	**9**	0	4	0	0	**4**	0	**20**
8:15AM	3	1	0	**4**	0	1	3	0	**4**	0	2	0	0	**2**	0	**10**
8:30AM	3	3	0	**6**	0	4	2	0	**6**	0	2	1	0	**3**	0	**15**
8:45AM	0	3	0	**3**	0	2	3	0	**5**	0	3	0	0	**3**	0	**11**
Hourly Total	11	9	0	**20**	0	14	10	0	**24**	0	11	1	0	**12**	0	**56**
4:00PM	3	6	0	**9**	0	6	3	0	**9**	0	10	6	0	**16**	0	**34**
4:15PM	1	2	0	**3**	0	3	5	0	**8**	0	6	7	0	**13**	0	**24**
4:30PM	2	2	0	**4**	0	2	5	0	**7**	0	5	10	0	**15**	0	**26**
4:45PM	4	5	0	**9**	0	9	5	0	**14**	0	12	4	0	**16**	0	**39**
Hourly Total	10	15	0	**25**	0	20	18	0	**38**	0	33	27	0	**60**	0	**123**
5:00PM	2	4	0	**6**	0	13	7	0	**20**	0	7	7	0	**14**	0	**40**
5:15PM	4	5	0	**9**	0	6	3	0	**9**	0	12	4	0	**16**	0	**34**
5:30PM	1	2	0	**3**	0	3	6	0	**9**	0	3	5	0	**8**	0	**20**
5:45PM	6	5	0	**11**	0	6	4	0	**10**	0	6	3	0	**9**	0	**30**
Hourly Total	13	16	0	**29**	0	28	20	0	**48**	0	28	19	0	**47**	0	**124**
Total	55	52	0	**107**	0	83	62	0	**145**	0	89	63	0	**152**	0	**404**
% Approach	51.4%	48.6%	0%	**-**	-	57.2%	42.8%	0%	**-**	-	58.6%	41.4%	0%	**-**	-	-
% Total	13.6%	12.9%	0%	**26.5%**	-	20.5%	15.3%	0%	**35.9%**	-	22.0%	15.6%	0%	**37.6%**	-	-
Lights	54	48	0	**102**	-	75	59	0	**134**	-	87	62	0	**149**	-	385
% Lights	98.2%	92.3%	0%	**95.3%**	-	90.4%	95.2%	0%	**92.4%**	-	97.8%	98.4%	0%	**98.0%**	-	95.3%
Articulated Trucks	1	1	0	**2**	-	3	0	0	**3**	-	0	0	0	**0**	-	5
% Articulated Trucks	1.8%	1.9%	0%	**1.9%**	-	3.6%	0%	0%	**2.1%**	-	0%	0%	0%	**0%**	-	1.2%
Buses and Single-Unit Trucks	0	3	0	**3**	-	5	3	0	**8**	-	2	1	0	**3**	-	14
% Buses and Single-Unit Trucks	0%	5.8%	0%	**2.8%**	-	6.0%	4.8%	0%	**5.5%**	-	2.2%	1.6%	0%	**2.0%**	-	3.5%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Indiana Ave / 13th Ave (N Leg) - TMC

Tue Aug 25, 2020
AM Peak (7 AM - 8 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)
All Movements
ID: 776045, Location: 41.914851, -88.300412

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg / Direction	Indiana Ave Eastbound					Indiana Ave Westbound					13th Ave Southbound					
Time	L	T	U	**App**	Ped*	T	R	U	**App**	Ped*	L	R	U	**App**	Ped*	**Int**
2020-08-25 7:00AM	6	4	0	**10**	0	3	1	0	**4**	0	5	1	0	**6**	0	**20**
7:15AM	4	3	0	**7**	0	8	2	0	**10**	0	3	2	0	**5**	0	**22**
7:30AM	4	2	0	**6**	0	7	5	0	**12**	0	3	5	0	**8**	0	**26**
7:45AM	7	3	0	**10**	0	3	6	0	**9**	0	6	8	0	**14**	0	**33**
Total	21	12	0	**33**	0	21	14	0	**35**	0	17	16	0	**33**	0	**101**
% Approach	63.6%	36.4%	0%	**-**	-	60.0%	40.0%	0%	**-**	-	51.5%	48.5%	0%	**-**	-	-
% Total	20.8%	11.9%	0%	**32.7%**	-	20.8%	13.9%	0%	**34.7%**	-	16.8%	15.8%	0%	**32.7%**	-	-
PHF	0.750	0.750	-	**0.825**	-	0.656	0.583	-	**0.729**	-	0.708	0.500	-	**0.589**	-	0.765
Lights	20	10	0	**30**	-	17	11	0	**28**	-	16	15	0	**31**	-	89
% Lights	95.2%	83.3%	0%	**90.9%**	-	81.0%	78.6%	0%	**80.0%**	-	94.1%	93.8%	0%	**93.9%**	-	88.1%
Articulated Trucks	1	0	0	**1**	-	1	0	0	**1**	-	0	0	0	**0**	-	2
% Articulated Trucks	4.8%	0%	0%	**3.0%**	-	4.8%	0%	0%	**2.9%**	-	0%	0%	0%	**0%**	-	2.0%
Buses and Single-Unit Trucks	0	2	0	**2**	-	3	3	0	**6**	-	1	1	0	**2**	-	10
% Buses and Single-Unit Trucks	0%	16.7%	0%	**6.1%**	-	14.3%	21.4%	0%	**17.1%**	-	5.9%	6.3%	0%	**6.1%**	-	9.9%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Indiana Ave / 13th Ave (N Leg) - TMC

Tue Aug 25, 2020
PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)
All Movements
ID: 776045, Location: 41.914851, -88.300412

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg / Direction	Indiana Ave Eastbound					Indiana Ave Westbound					13th Ave Southbound					
Time	L	T	U	**App**	Ped*	T	R	U	**App**	Ped*	L	R	U	**App**	Ped*	**Int**
2020-08-25 4:30PM	2	2	0	**4**	0	2	5	0	**7**	0	5	10	0	**15**	0	**26**
4:45PM	4	5	0	**9**	0	9	5	0	**14**	0	12	4	0	**16**	0	**39**
5:00PM	2	4	0	**6**	0	13	7	0	**20**	0	7	7	0	**14**	0	**40**
5:15PM	4	5	0	**9**	0	6	3	0	**9**	0	12	4	0	**16**	0	**34**
Total	12	16	0	**28**	0	30	20	0	**50**	0	36	25	0	**61**	0	**139**
% Approach	42.9%	57.1%	0%	**-**	-	60.0%	40.0%	0%	**-**	-	59.0%	41.0%	0%	**-**	-	-
% Total	8.6%	11.5%	0%	**20.1%**	-	21.6%	14.4%	0%	**36.0%**	-	25.9%	18.0%	0%	**43.9%**	-	-
PHF	0.750	0.800	-	**0.778**	-	0.577	0.714	-	**0.625**	-	0.750	0.625	-	**0.953**	-	0.869
Lights	12	15	0	**27**	-	30	20	0	**50**	-	35	25	0	**60**	-	137
% Lights	100%	93.8%	0%	**96.4%**	-	100%	100%	0%	**100%**	-	97.2%	100%	0%	**98.4%**	-	98.6%
Articulated Trucks	0	1	0	**1**	-	0	0	0	**0**	-	0	0	0	**0**	-	1
% Articulated Trucks	0%	6.3%	0%	**3.6%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0.7%
Buses and Single-Unit Trucks	0	0	0	**0**	-	0	0	0	**0**	-	1	0	0	**1**	-	1
% Buses and Single-Unit Trucks	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	2.8%	0%	0%	**1.6%**	-	0.7%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Indiana Ave / 13th Ave (S Leg) - TMC

Tue Aug 25, 2020
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)
All Movements
ID: 776046, Location: 41.914947, -88.30001

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg Direction	Indiana Eastbound					Indiana Westbound					13th Northbound					
Time	T	R	U	**App**	Ped*	L	T	U	**App**	Ped*	L	R	U	**App**	Ped*	**Int**
2020-08-25 7:00AM	8	1	0	**9**	0	0	2	0	**2**	0	2	0	0	**2**	0	**13**
7:15AM	5	1	0	**6**	0	1	5	0	**6**	0	5	0	0	**5**	0	**17**
7:30AM	4	1	0	**5**	0	0	10	0	**10**	0	2	1	0	**3**	3	**18**
7:45AM	6	3	0	**9**	0	0	6	0	**6**	0	3	0	0	**3**	0	**18**
Hourly Total	23	6	0	**29**	0	1	23	0	**24**	0	12	1	0	**13**	3	**66**
8:00AM	4	2	0	**6**	0	0	4	0	**4**	0	5	0	0	**5**	0	**15**
8:15AM	2	1	0	**3**	0	0	1	0	**1**	0	3	0	0	**3**	0	**7**
8:30AM	4	1	0	**5**	0	0	2	0	**2**	0	4	0	0	**4**	0	**11**
8:45AM	5	1	0	**6**	0	0	2	0	**2**	0	3	0	0	**3**	0	**11**
Hourly Total	15	5	0	**20**	0	0	9	0	**9**	0	15	0	0	**15**	0	**44**
4:00PM	12	4	1	**17**	0	0	7	0	**7**	0	1	0	0	**1**	0	**25**
4:15PM	5	3	0	**8**	0	0	6	0	**6**	0	2	0	0	**2**	0	**16**
4:30PM	5	2	0	**7**	0	0	6	0	**6**	0	1	0	0	**1**	0	**14**
4:45PM	15	2	0	**17**	0	1	12	0	**13**	0	2	0	0	**2**	0	**32**
Hourly Total	37	11	1	**49**	0	1	31	0	**32**	0	6	0	0	**6**	0	**87**
5:00PM	11	0	0	**11**	0	0	17	0	**17**	0	3	0	0	**3**	0	**31**
5:15PM	11	6	0	**17**	0	0	7	0	**7**	0	2	2	0	**4**	0	**28**
5:30PM	2	3	0	**5**	0	0	5	0	**5**	0	4	0	0	**4**	0	**14**
5:45PM	9	2	0	**11**	0	0	8	0	**8**	0	2	0	0	**2**	0	**21**
Hourly Total	33	11	0	**44**	0	0	37	0	**37**	0	11	2	0	**13**	0	**94**
Total	108	33	1	**142**	0	2	100	0	**102**	0	44	3	0	**47**	3	**291**
% Approach	76.1%	23.2%	0.7%	-	-	2.0%	98.0%	0%	-	-	93.6%	6.4%	0%	-	-	-
% Total	37.1%	11.3%	0.3%	**48.8%**	-	0.7%	34.4%	0%	**35.1%**	-	15.1%	1.0%	0%	**16.2%**	-	-
Lights	103	32	1	**136**	-	2	93	0	**95**	-	41	3	0	**44**	-	275
% Lights	95.4%	97.0%	100%	**95.8%**	-	100%	93.0%	0%	**93.1%**	-	93.2%	100%	0%	**93.6%**	-	94.5%
Articulated Trucks	1	0	0	**1**	-	0	3	0	**3**	-	0	0	0	**0**	-	4
% Articulated Trucks	0.9%	0%	0%	**0.7%**	-	0%	3.0%	0%	**2.9%**	-	0%	0%	0%	**0%**	-	1.4%
Buses and Single-Unit Trucks	4	1	0	**5**	-	0	4	0	**4**	-	3	0	0	**3**	-	12
% Buses and Single-Unit Trucks	3.7%	3.0%	0%	**3.5%**	-	0%	4.0%	0%	**3.9%**	-	6.8%	0%	0%	**6.4%**	-	4.1%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	3	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Indiana Ave / 13th Ave (S Leg) - TMC

Tue Aug 25, 2020
AM Peak (7:15 AM - 8:15 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)
All Movements
ID: 776046, Location: 41.914947, -88.30001

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg / Direction	Indiana Eastbound					Indiana Westbound					13th Northbound					
Time	T	R	U	**App**	Ped*	L	T	U	**App**	Ped*	L	R	U	**App**	Ped*	**Int**
2020-08-25 7:15AM	5	1	0	**6**	0	1	5	0	**6**	0	5	0	0	**5**	0	**17**
7:30AM	4	1	0	**5**	0	0	10	0	**10**	0	2	1	0	**3**	3	**18**
7:45AM	6	3	0	**9**	0	0	6	0	**6**	0	3	0	0	**3**	0	**18**
8:00AM	4	2	0	**6**	0	0	4	0	**4**	0	5	0	0	**5**	0	**15**
Total	19	7	0	**26**	0	1	25	0	**26**	0	15	1	0	**16**	3	**68**
% Approach	73.1%	26.9%	0%	**-**	-	3.8%	96.2%	0%	**-**	-	93.8%	6.3%	0%	**-**	-	-
% Total	27.9%	10.3%	0%	**38.2%**	-	1.5%	36.8%	0%	**38.2%**	-	22.1%	1.5%	0%	**23.5%**	-	-
PHF	0.792	0.583	-	**0.722**	-	0.250	0.625	-	**0.650**	-	0.750	0.250	-	**0.800**	-	0.944
Lights	17	6	0	**23**	-	1	20	0	**21**	-	12	1	0	**13**	-	57
% Lights	89.5%	85.7%	0%	**88.5%**	-	100%	80.0%	0%	**80.8%**	-	80.0%	100%	0%	**81.3%**	-	83.8%
Articulated Trucks	0	0	0	**0**	-	0	2	0	**2**	-	0	0	0	**0**	-	2
% Articulated Trucks	0%	0%	0%	**0%**	-	0%	8.0%	0%	**7.7%**	-	0%	0%	0%	**0%**	-	2.9%
Buses and Single-Unit Trucks	2	1	0	**3**	-	0	3	0	**3**	-	3	0	0	**3**	-	9
% Buses and Single-Unit Trucks	10.5%	14.3%	0%	**11.5%**	-	0%	12.0%	0%	**11.5%**	-	20.0%	0%	0%	**18.8%**	-	13.2%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	3	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Indiana Ave / 13th Ave (S Leg) - TMC

Tue Aug 25, 2020
PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)
All Movements
ID: 776046, Location: 41.914947, -88.30001

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg / Direction	Indiana Eastbound					Indiana Westbound					13th Northbound					
Time	T	R	U	**App**	Ped*	L	T	U	**App**	Ped*	L	R	U	**App**	Ped*	**Int**
2020-08-25 4:30PM	5	2	0	**7**	0	0	6	0	**6**	0	1	0	0	**1**	0	**14**
4:45PM	15	2	0	**17**	0	1	12	0	**13**	0	2	0	0	**2**	0	**32**
5:00PM	11	0	0	**11**	0	0	17	0	**17**	0	3	0	0	**3**	0	**31**
5:15PM	11	6	0	**17**	0	0	7	0	**7**	0	2	2	0	**4**	0	**28**
Total	42	10	0	**52**	0	1	42	0	**43**	0	8	2	0	**10**	0	**105**
% Approach	80.8%	19.2%	0%	**-**	-	2.3%	97.7%	0%	**-**	-	80.0%	20.0%	0%	**-**	-	-
% Total	40.0%	9.5%	0%	**49.5%**	-	1.0%	40.0%	0%	**41.0%**	-	7.6%	1.9%	0%	**9.5%**	-	-
PHF	0.700	0.417	-	**0.765**	-	0.250	0.618	-	**0.632**	-	0.667	0.250	-	**0.625**	-	0.820
Lights	40	10	0	**50**	-	1	42	0	**43**	-	8	2	0	**10**	-	103
% Lights	95.2%	100%	0%	**96.2%**	-	100%	100%	0%	**100%**	-	100%	100%	0%	**100%**	-	98.1%
Articulated Trucks	1	0	0	**1**	-	0	0	0	**0**	-	0	0	0	**0**	-	1
% Articulated Trucks	2.4%	0%	0%	**1.9%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	1.0%
Buses and Single-Unit Trucks	1	0	0	**1**	-	0	0	0	**0**	-	0	0	0	**0**	-	1
% Buses and Single-Unit Trucks	2.4%	0%	0%	**1.9%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	1.0%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Appendix D
Crash Summary Map

GHA GEWALT HAMILTON ASSOCIATES, INC.

GHA GEWALT HAMILTON ASSOCIATES, INC.
www.gha-engineers.com

N

1 inch = 1,000 Feet

IDOT Crash Data (2014-2018)

Proposed Residential Development
St. Charles, IL

Map Center: 88.29591°W 41.91338°N

Appendix E
CMAP Traffic Projections

GHA GEWALT HAMILTON ASSOCIATES, INC.

Chicago Metropolitan Agency for Planning

233 South Wacker Drive
Suite 800
Chicago, Illinois 60606

312 454 0400
www.cmap.illinois.gov

June 19, 2020

Lynn M. Means, P.E., PTOE
Senior Transportation Engineer
Gewalt Hamilton Associates
625 Forest Edge Drive
Vernon Hills, IL 60061

Subject: ***Tyler Road - Madison Avenue - 7th Avenue - Main Street***
IDOT

Dear Ms. Mean:

In response to a request made on your behalf and dated June 18, 2020, we have developed year 2050 average daily traffic (ADT) projections for the subject location.

ROAD SEGMENT	Current Volumes	Year 2050 ADT
Main St (IL 64) fr 7th Ave to Kirk Rd	29,500	36,700
Tyler Rd fr Main St to Madison Ave	7,350	8,400
Tyler Rd fr Madison Ave to Kirk Rd	4,700	7,300
Madison Ave from7th Ave to Tyler Rd	2,700	4,200
7th Ave from Main St to Madison Ave	3,400	3,600
7th Ave from Madison Ave to State St	3,850	4,100

Traffic projections are developed using existing ADT data provided in the request letter and the results from the March 2020 CMAP Travel Demand Analysis. The regional travel model uses CMAP 2050 socioeconomic projections and assumes the implementation of the ON TO 2050 Comprehensive Regional Plan for the Northeastern Illinois area. The provision of this data in support of your request does not constitute a CMAP endorsement of the proposed development or any subsequent developments.

If you have any questions, please call me at (312) 386-8806.

Sincerely,

Jose Rodriguez, PTP, AICP
Senior Planner, Research & Analysis

cc: Quigley (IDOT)
\2020_TrafficForecast\St.Charles\ka-13-20\ka-13-20.docx

Appendix F
ITE Trip Generation Excerpts

GHA GEWALT HAMILTON ASSOCIATES, INC.

Single-Family Detached Housing
(210)

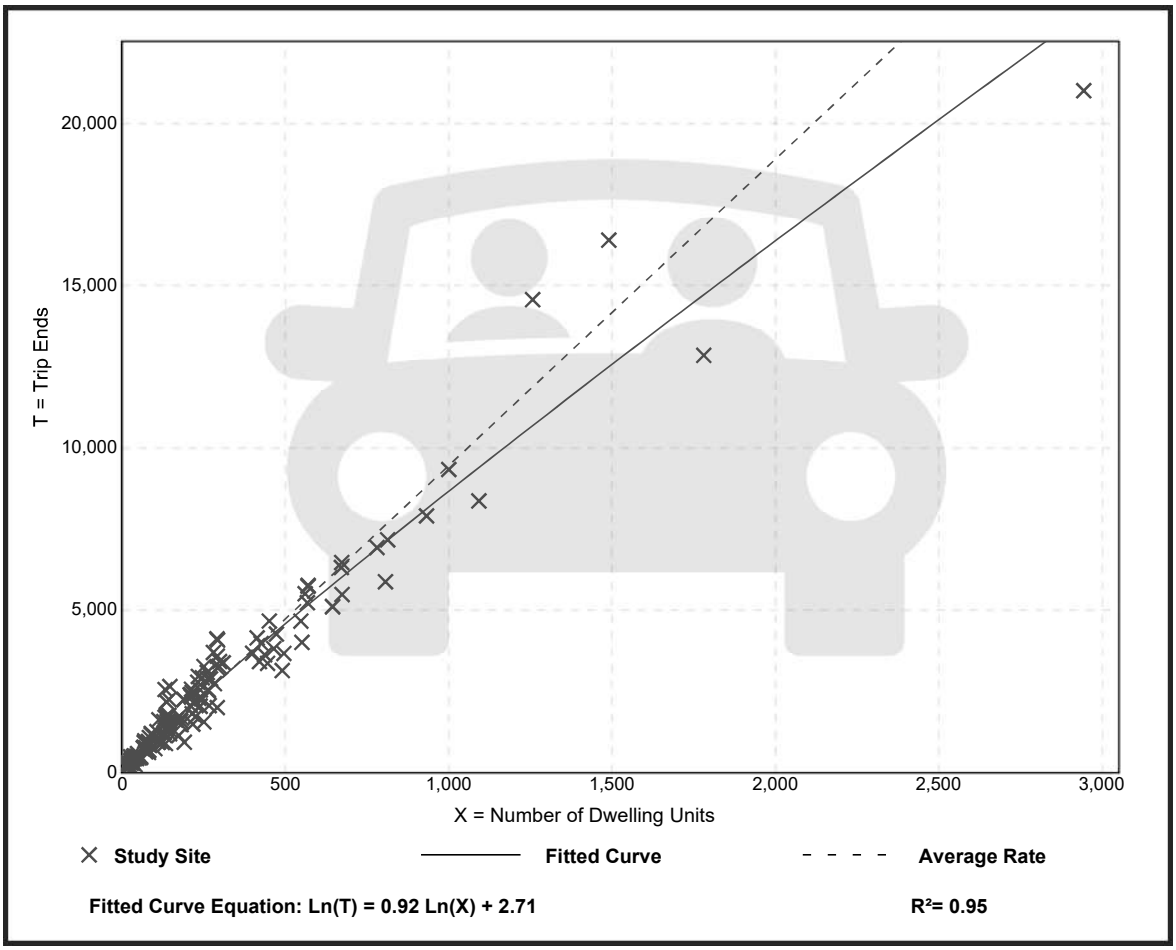
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 159
Avg. Num. of Dwelling Units: 264
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
9.44	4.81 - 19.39	2.10

Data Plot and Equation



Trip Gen Manual, 10th Ed + Supplement • Institute of Transportation Engineers

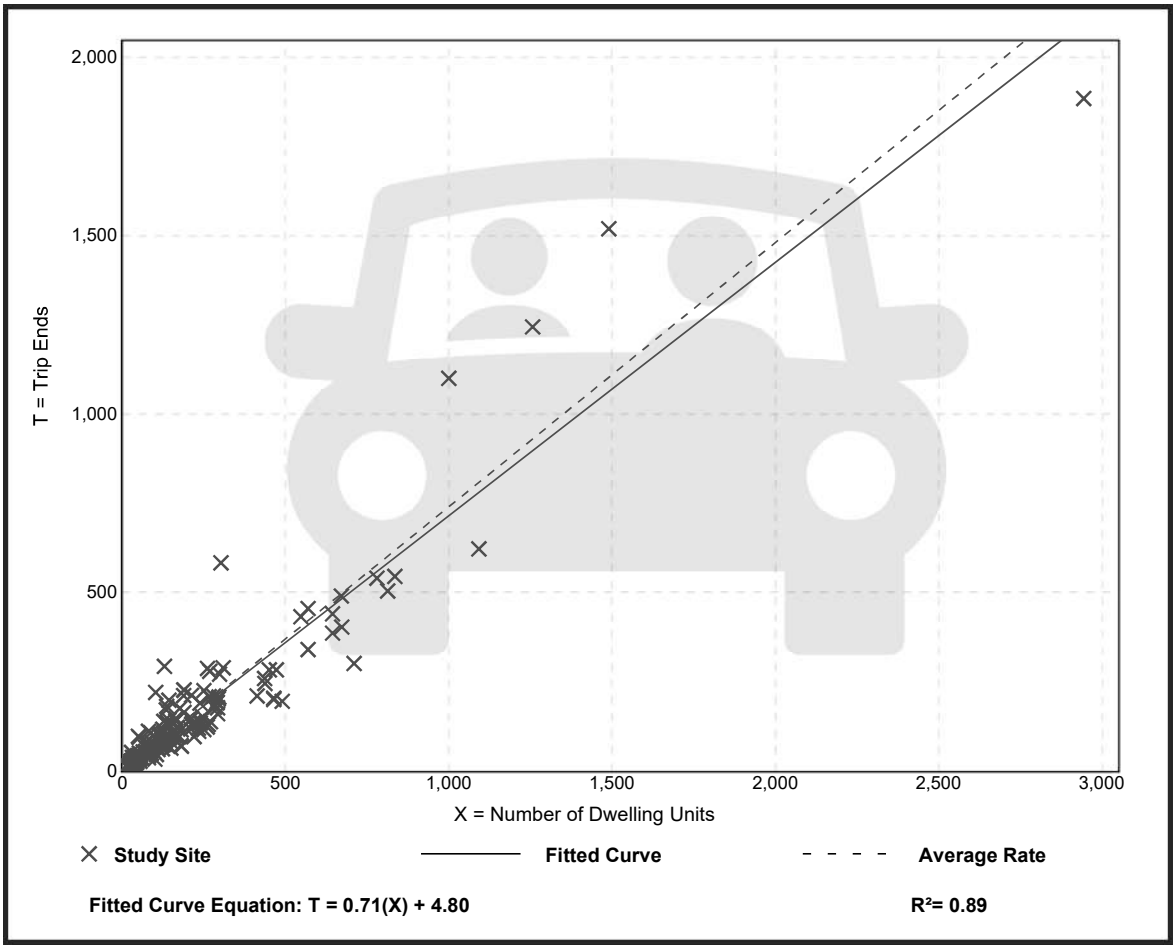
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 173
Avg. Num. of Dwelling Units: 219
Directional Distribution: 25% entering, 75% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.74	0.33 - 2.27	0.27

Data Plot and Equation



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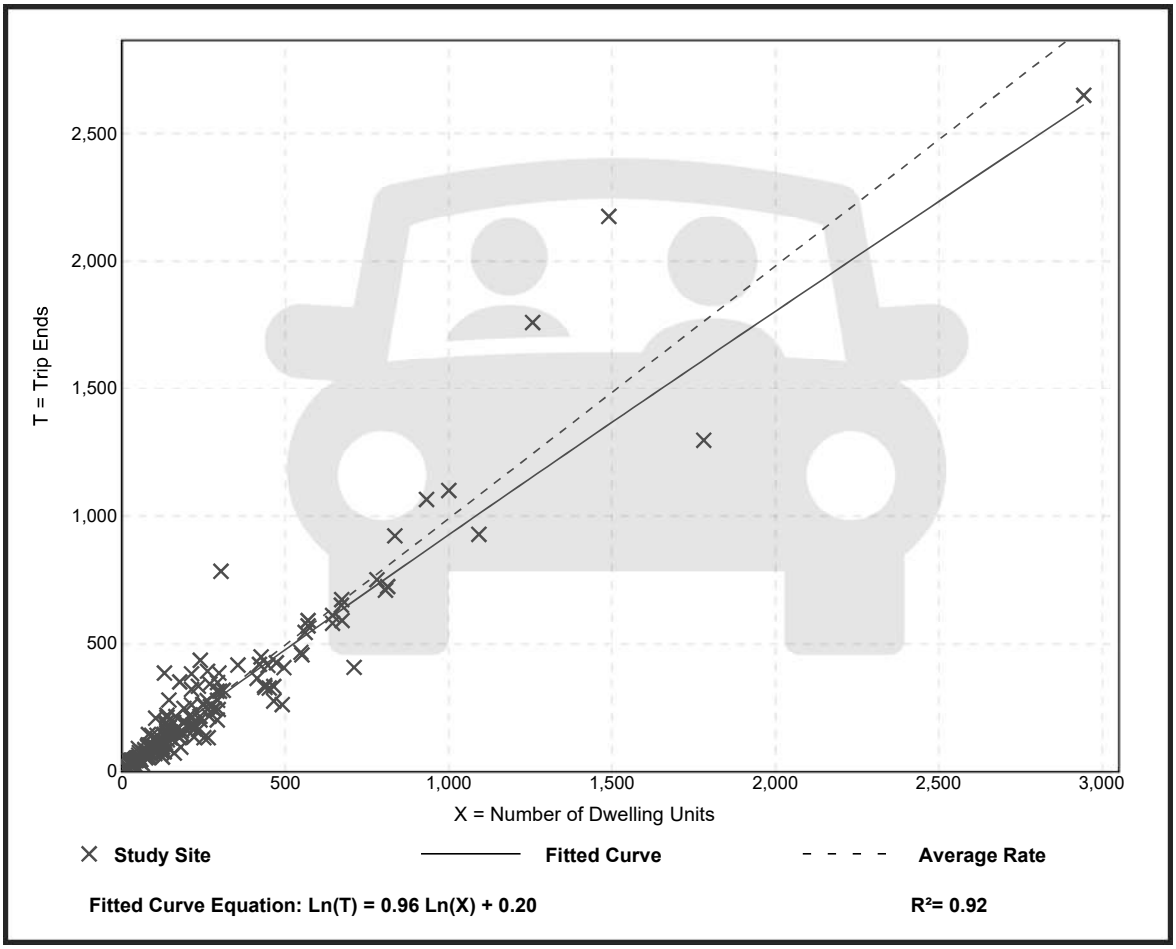
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 190
Avg. Num. of Dwelling Units: 242
Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.99	0.44 - 2.98	0.31

Data Plot and Equation



Trip Gen Manual, 10th Ed + Supplement • Institute of Transportation Engineers

Senior Adult Housing - Detached
(251)

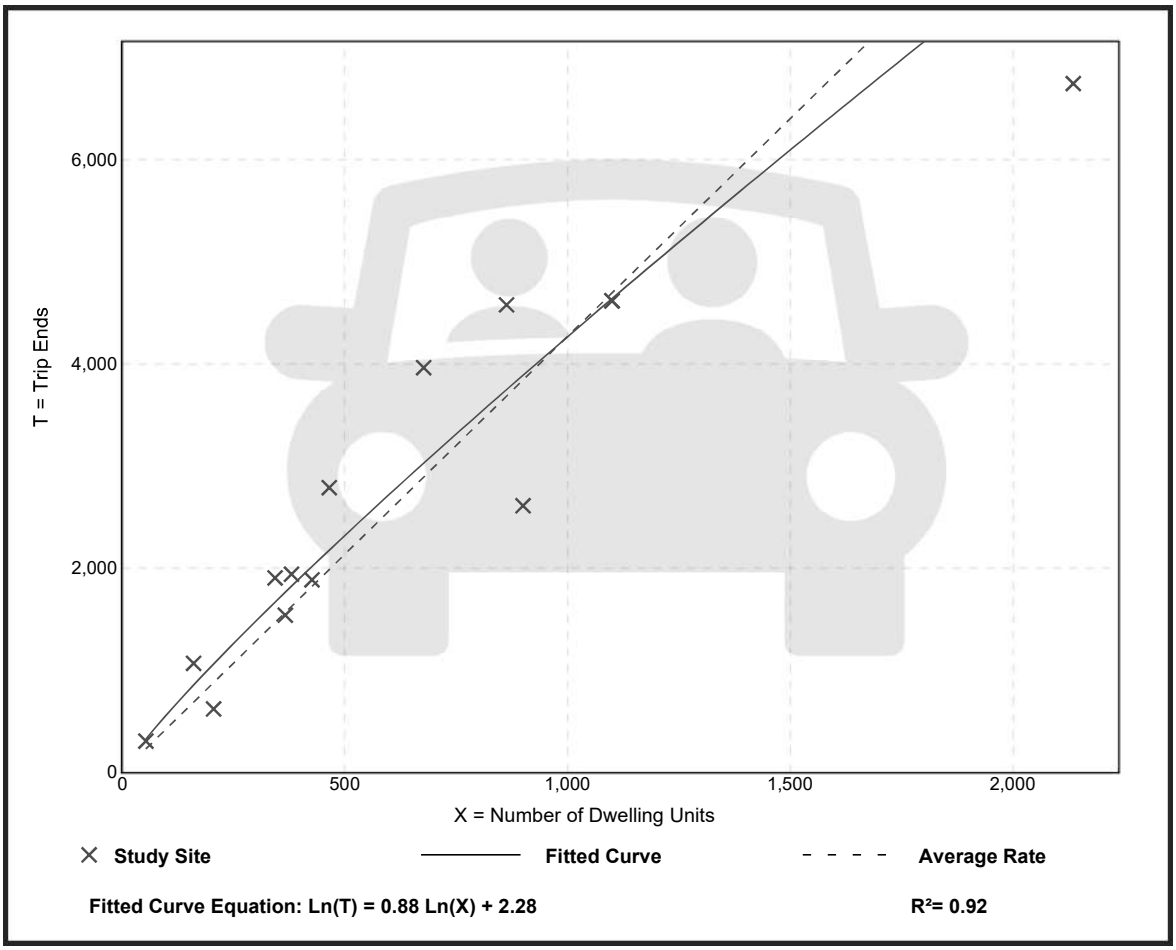
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 14
Avg. Num. of Dwelling Units: 655
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
4.27	2.90 - 6.66	1.11

Data Plot and Equation



Trip Gen Manual, 10th Ed + Supplement • Institute of Transportation Engineers

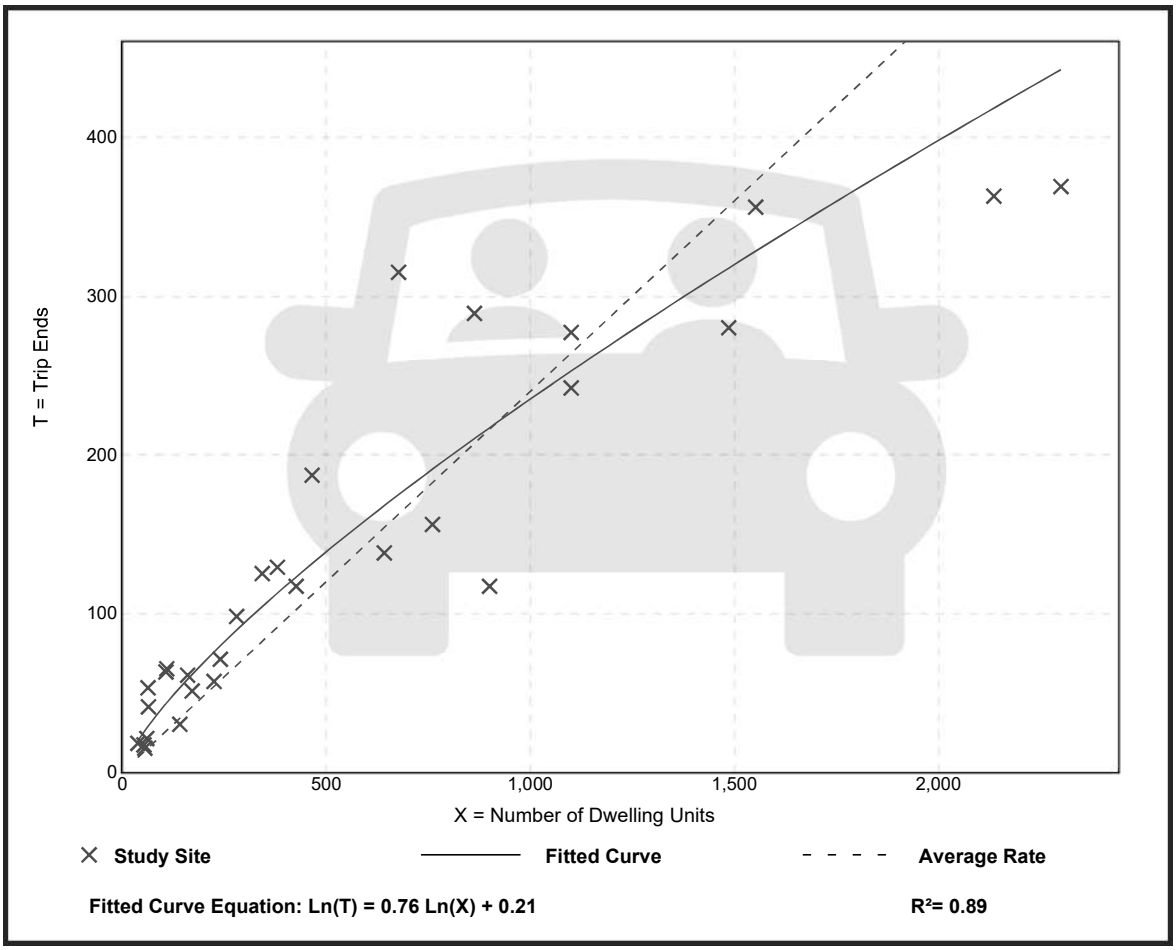
Senior Adult Housing - Detached
(251)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	29
Avg. Num. of Dwelling Units:	583
Directional Distribution:	33% entering, 67% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.24	0.13 - 0.84	0.10

Data Plot and Equation



Trip Gen Manual, 10th Ed + Supplement • Institute of Transportation Engineers

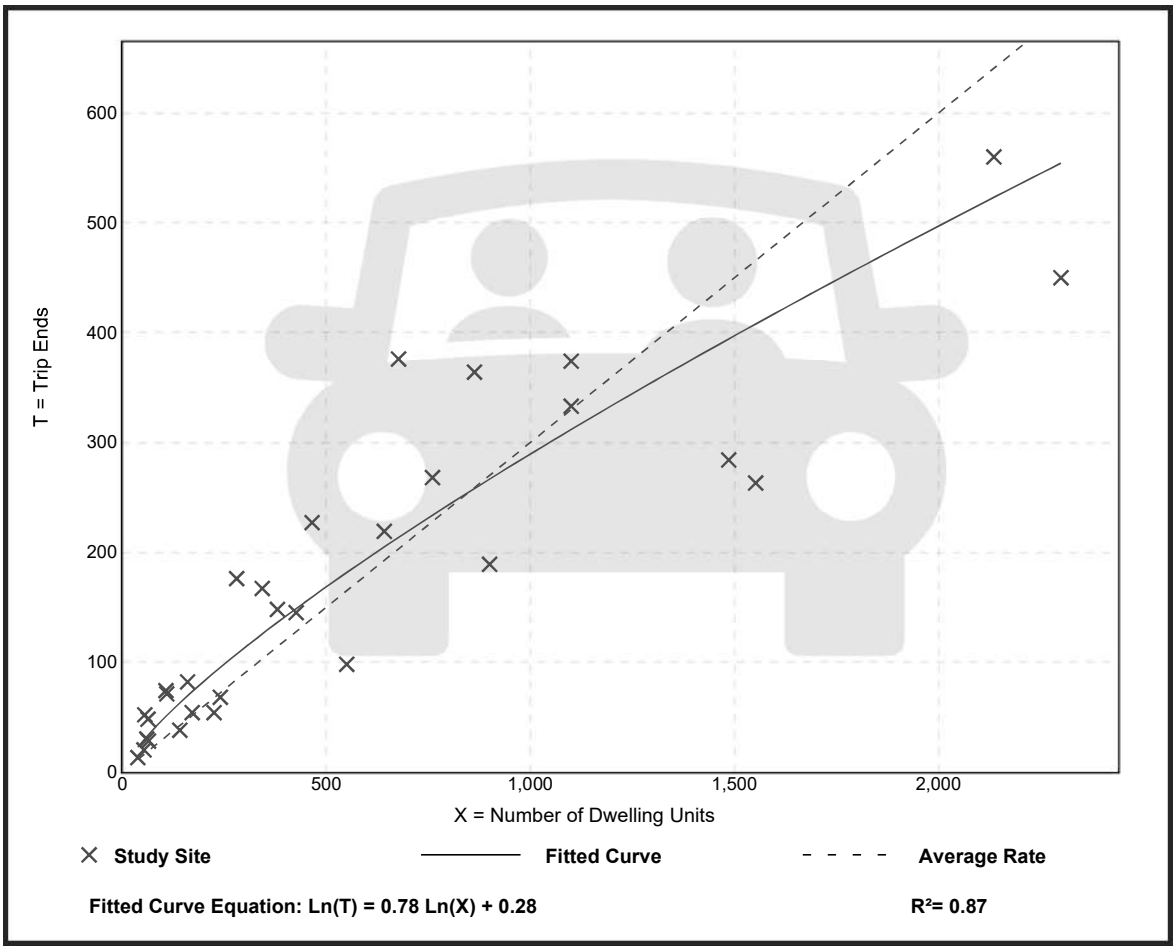
Senior Adult Housing - Detached
(251)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	30
Avg. Num. of Dwelling Units:	582
Directional Distribution:	61% entering, 39% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.30	0.17 - 0.95	0.13

Data Plot and Equation



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Appendix G
Capacity Analysis Worksheets

GHA GEWALT HAMILTON ASSOCIATES, INC.

HCS7 Two-Way Stop-Control Report

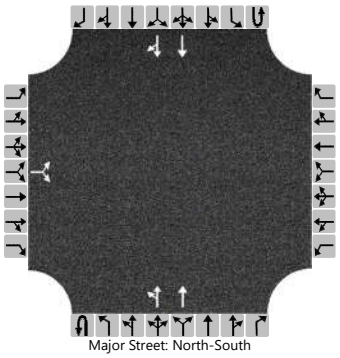
General Information

Analyst	LMM
Agency/Co.	GHA
Date Performed	9/2/2020
Analysis Year	2020
Time Analyzed	Existing AM
Intersection Orientation	North-South
Project Description	5718.900

Site Information

Intersection	Munhall Ave / Tyler Rd
Jurisdiction	Local
East/West Street	Munhall Ave
North/South Street	Tyler Rd
Peak Hour Factor	0.84
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	2	0	0	0	2	0
Configuration			LR							LT	T				T	TR
Volume (veh/h)		18		1						1	349				290	6
Percent Heavy Vehicles (%)		8		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5		6.9						4.1						
Critical Headway (sec)		6.96		6.90						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.58		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			23							1						
Capacity, c (veh/h)			456							1218						
v/c Ratio			0.05							0.00						
95% Queue Length, Q_{95} (veh)			0.2							0.0						
Control Delay (s/veh)			13.3							8.0						
Level of Service (LOS)			B							A						
Approach Delay (s/veh)		13.3								0.0						
Approach LOS		B														

HCS7 Two-Way Stop-Control Report

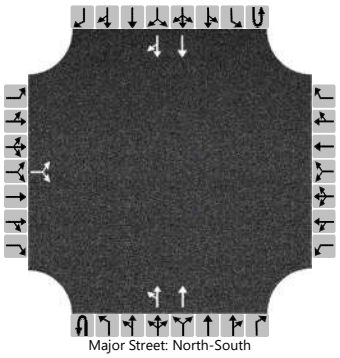
General Information

Analyst	LMM
Agency/Co.	GHA
Date Performed	9/2/2020
Analysis Year	2020
Time Analyzed	Existing PM
Intersection Orientation	North-South
Project Description	5718.900

Site Information

Intersection	Munhall Ave / Tyler Rd
Jurisdiction	Local
East/West Street	Munhall Ave
North/South Street	Tyler Rd
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	2	0	0	0	2	0
Configuration			LR							LT	T				T	TR
Volume (veh/h)		24		1						1	400				343	33
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5		6.9						4.1						
Critical Headway (sec)		6.80		6.90						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			27							1						
Capacity, c (veh/h)			442							1165						
v/c Ratio			0.06							0.00						
95% Queue Length, Q_{95} (veh)			0.2							0.0						
Control Delay (s/veh)			13.7							8.1						
Level of Service (LOS)			B							A						
Approach Delay (s/veh)		13.7								0.0						
Approach LOS		B														

HCS7 Two-Way Stop-Control Report

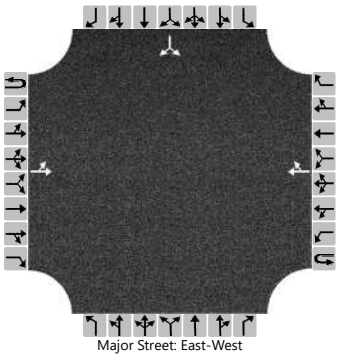
General Information

Analyst	LMM
Agency/Co.	GHA
Date Performed	9/2/2020
Analysis Year	2020
Time Analyzed	Existing AM
Intersection Orientation	East-West
Project Description	5718.900

Site Information

Intersection	Indiana/13th (N. Leg)
Jurisdiction	Local
East/West Street	Indiana Ave
North/South Street	13th Ave (N Leg)
Peak Hour Factor	0.76
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		26	15				30	20						21		20
Percent Heavy Vehicles (%)		5												6		6
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage					Undivided											

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.15												6.46		6.26
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.25												3.55		3.35

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		34													54	
Capacity, c (veh/h)		1517													903	
v/c Ratio		0.02													0.06	
95% Queue Length, Q_{95} (veh)		0.1													0.2	
Control Delay (s/veh)		7.4													9.2	
Level of Service (LOS)		A													A	
Approach Delay (s/veh)		4.8												9.2		
Approach LOS														A		

HCS7 Two-Way Stop-Control Report

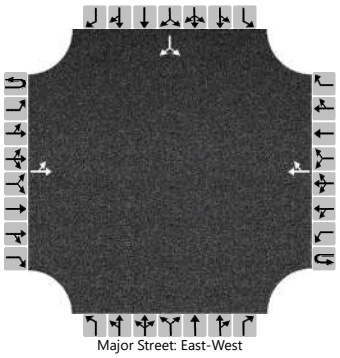
General Information

Analyst	LMM
Agency/Co.	GHA
Date Performed	9/2/2020
Analysis Year	2020
Time Analyzed	Existing PM
Intersection Orientation	East-West
Project Description	5718.900

Site Information

Intersection	Indiana/13th (N. Leg)
Jurisdiction	Local
East/West Street	Indiana Ave
North/South Street	13th Ave (N Leg)
Peak Hour Factor	0.87
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		15	20				38	25						45		31
Percent Heavy Vehicles (%)		0												3		0
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage					Undivided											

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.10												6.43		6.20
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.20												3.53		3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		17													87	
Capacity, c (veh/h)		1540													922	
v/c Ratio		0.01													0.09	
95% Queue Length, Q_{95} (veh)		0.0													0.3	
Control Delay (s/veh)		7.4													9.3	
Level of Service (LOS)		A													A	
Approach Delay (s/veh)		3.2												9.3		
Approach LOS														A		

HCS7 Two-Way Stop-Control Report

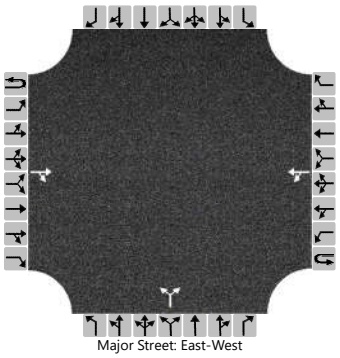
General Information

Analyst	LMM
Agency/Co.	GHA
Date Performed	9/2/2020
Analysis Year	2020
Time Analyzed	Existing AM
Intersection Orientation	East-West
Project Description	5718.900

Site Information

Intersection	Indiana/13th (S Leg)
Jurisdiction	Local
East/West Street	Indiana Ave
North/South Street	13th Stree (S Leg)
Peak Hour Factor	0.94
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			26	10		1	31			19		1				
Percent Heavy Vehicles (%)						0				20		0				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type | Storage																

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.10				6.60		6.20				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.20				3.68		3.30				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						1					21					
Capacity, c (veh/h)						1585					900					
v/c Ratio						0.00					0.02					
95% Queue Length, Q_{95} (veh)						0.0					0.1					
Control Delay (s/veh)						7.3					9.1					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)						0.2				9.1						
Approach LOS										A						

HCS7 Two-Way Stop-Control Report

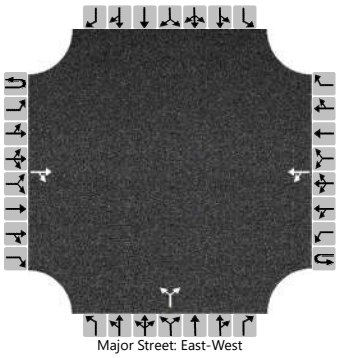
General Information

Analyst	LMM
Agency/Co.	GHA
Date Performed	9/2/2020
Analysis Year	2020
Time Analyzed	Existing PM
Intersection Orientation	East-West
Project Description	5718.900

Site Information

Intersection	Indiana/13th (S Leg)
Jurisdiction	Local
East/West Street	Indiana Ave
North/South Street	13th Stree (S Leg)
Peak Hour Factor	0.82
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			53	12		1	53			10		3				
Percent Heavy Vehicles (%)						0				0		0				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type | Storage						Undivided										

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.10				6.40		6.20				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.20				3.50		3.30				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						1					16					
Capacity, c (veh/h)						1532					886					
v/c Ratio						0.00					0.02					
95% Queue Length, Q_{95} (veh)						0.0					0.1					
Control Delay (s/veh)						7.4					9.1					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)						0.1				9.1						
Approach LOS										A						

HCS7 Two-Way Stop-Control Report

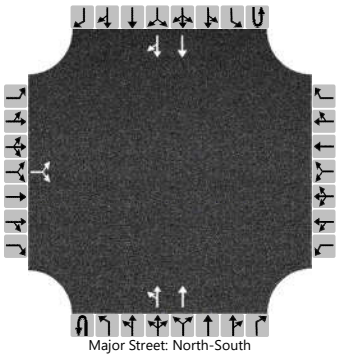
General Information

Analyst	LMM
Agency/Co.	GHA
Date Performed	9/2/2020
Analysis Year	2027
Time Analyzed	NoBuild AM
Intersection Orientation	North-South
Project Description	5718.900

Site Information

Intersection	Munhall Ave / Tyler Rd
Jurisdiction	Local
East/West Street	Munhall Ave
North/South Street	Tyler Rd
Peak Hour Factor	0.84
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	2	0	0	0	2	0
Configuration			LR							LT	T				T	TR
Volume (veh/h)		18		1						1	366				304	6
Percent Heavy Vehicles (%)		8		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5		6.9						4.1						
Critical Headway (sec)		6.96		6.90						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.58		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			23							1						
Capacity, c (veh/h)			438							1201						
v/c Ratio			0.05							0.00						
95% Queue Length, Q_{95} (veh)			0.2							0.0						
Control Delay (s/veh)			13.7							8.0						
Level of Service (LOS)			B							A						
Approach Delay (s/veh)		13.7								0.0						
Approach LOS		B														

HCS7 Two-Way Stop-Control Report

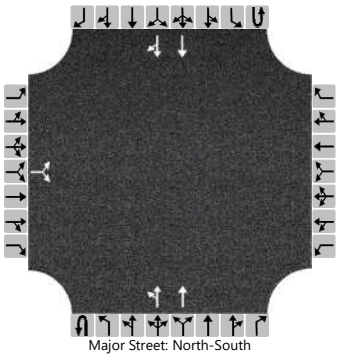
General Information

Analyst	LMM
Agency/Co.	GHA
Date Performed	9/2/2020
Analysis Year	2027
Time Analyzed	NoBuild PM
Intersection Orientation	North-South
Project Description	5718.900

Site Information

Intersection	Munhall Ave / Tyler Rd
Jurisdiction	Local
East/West Street	Munhall Ave
North/South Street	Tyler Rd
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	2	0	0	0	2	0
Configuration			LR							LT	T				T	TR
Volume (veh/h)		24		1						1	418				360	33
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5		6.9						4.1						
Critical Headway (sec)		6.80		6.90						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			27							1						
Capacity, c (veh/h)			425							1147						
v/c Ratio			0.06							0.00						
95% Queue Length, Q_{95} (veh)			0.2							0.0						
Control Delay (s/veh)			14.0							8.1						
Level of Service (LOS)			B							A						
Approach Delay (s/veh)		14.0								0.0						
Approach LOS		B														

HCS7 Two-Way Stop-Control Report

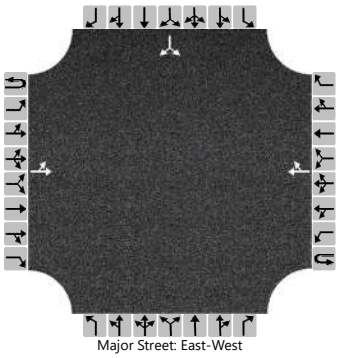
General Information

Analyst	LMM
Agency/Co.	GHA
Date Performed	9/2/2020
Analysis Year	2027
Time Analyzed	NoBuild AM
Intersection Orientation	East-West
Project Description	5718.900

Site Information

Intersection	Indiana/13th (N. Leg)
Jurisdiction	Local
East/West Street	Indiana Ave
North/South Street	13th Ave (N Leg)
Peak Hour Factor	0.76
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		27	15				31	21						22		21
Percent Heavy Vehicles (%)		5												6		6
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.15												6.46		6.26
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.25												3.55		3.35

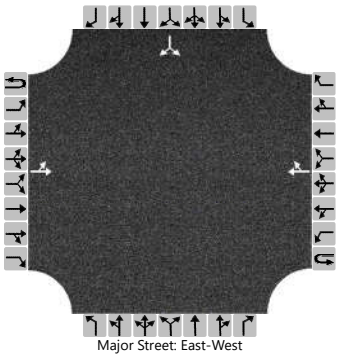
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		36													57	
Capacity, c (veh/h)		1514													898	
v/c Ratio		0.02													0.06	
95% Queue Length, Q_{95} (veh)		0.1													0.2	
Control Delay (s/veh)		7.4													9.3	
Level of Service (LOS)		A													A	
Approach Delay (s/veh)	4.8												9.3			
Approach LOS													A			

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	LMM	Intersection	Indiana/13th (N. Leg)
Agency/Co.	GHA	Jurisdiction	Local
Date Performed	9/2/2020	East/West Street	Indiana Ave
Analysis Year	2027	North/South Street	13th Ave (N Leg)
Time Analyzed	NoBuild PM	Peak Hour Factor	0.87
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	5718.900		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		15	21				39	26						46		32
Percent Heavy Vehicles (%)		0												3		0
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.10												6.43		6.20
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.20												3.53		3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		17													90	
Capacity, c (veh/h)		1537													920	
v/c Ratio		0.01													0.10	
95% Queue Length, Q_{95} (veh)		0.0													0.3	
Control Delay (s/veh)		7.4													9.3	
Level of Service (LOS)		A													A	
Approach Delay (s/veh)		3.1												9.3		
Approach LOS														A		

HCS7 Two-Way Stop-Control Report

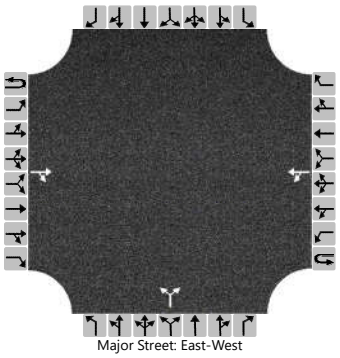
General Information

Analyst	LMM
Agency/Co.	GHA
Date Performed	9/2/2020
Analysis Year	2027
Time Analyzed	NoBuild AM
Intersection Orientation	East-West
Project Description	5718.900

Site Information

Intersection	Indiana/13th (S Leg)
Jurisdiction	Local
East/West Street	Indiana Ave
North/South Street	13th Stree (S Leg)
Peak Hour Factor	0.94
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			27	10		1	32			20		1				
Percent Heavy Vehicles (%)						0				20		0				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type | Storage																

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.10				6.60		6.20				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.20				3.68		3.30				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						1					22					
Capacity, c (veh/h)						1584					897					
v/c Ratio						0.00					0.02					
95% Queue Length, Q_{95} (veh)						0.0					0.1					
Control Delay (s/veh)						7.3					9.1					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)						0.2				9.1						
Approach LOS										A						

HCS7 Two-Way Stop-Control Report

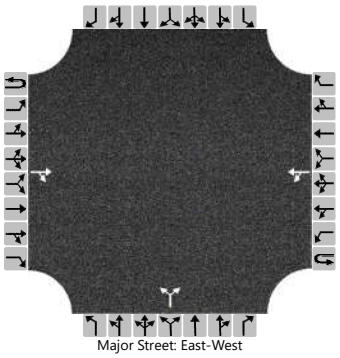
General Information

Analyst	LMM
Agency/Co.	GHA
Date Performed	9/2/2020
Analysis Year	2027
Time Analyzed	NoBuild PM
Intersection Orientation	East-West
Project Description	5718.900

Site Information

Intersection	Indiana/13th (S Leg)
Jurisdiction	Local
East/West Street	Indiana Ave
North/South Street	13th Stree (S Leg)
Peak Hour Factor	0.82
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			55	12		1	55			10		3				
Percent Heavy Vehicles (%)						0				0		0				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type | Storage						Undivided										

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.10				6.40		6.20				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.20				3.50		3.30				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						1					16					
Capacity, c (veh/h)						1528					881					
v/c Ratio						0.00					0.02					
95% Queue Length, Q_{95} (veh)						0.0					0.1					
Control Delay (s/veh)						7.4					9.2					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)						0.1				9.2						
Approach LOS										A						

HCS7 Two-Way Stop-Control Report

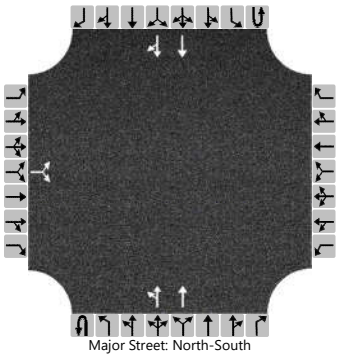
General Information

Analyst	LMM
Agency/Co.	GHA
Date Performed	9/2/2020
Analysis Year	2027
Time Analyzed	Total (Gate) AM
Intersection Orientation	North-South
Project Description	5718.900

Site Information

Intersection	Munhall Ave / Tyler Rd
Jurisdiction	Local
East/West Street	Munhall Ave
North/South Street	Tyler Rd
Peak Hour Factor	0.84
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	2	0	0	0	2	0
Configuration			LR							LT	T				T	TR
Volume (veh/h)		33		9						3	366				304	12
Percent Heavy Vehicles (%)		8		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5		6.9						4.1						
Critical Headway (sec)		6.96		6.90						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.58		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			50							4						
Capacity, c (veh/h)			470							1193						
v/c Ratio			0.11							0.00						
95% Queue Length, Q_{95} (veh)			0.4							0.0						
Control Delay (s/veh)			13.6							8.0						
Level of Service (LOS)			B							A						
Approach Delay (s/veh)		13.6								0.1						
Approach LOS		B														

HCS7 Two-Way Stop-Control Report

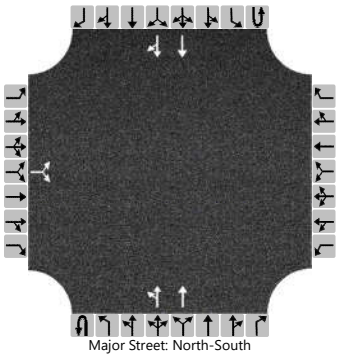
General Information

Analyst	LMM
Agency/Co.	GHA
Date Performed	9/2/2020
Analysis Year	2027
Time Analyzed	Total (Gate) PM
Intersection Orientation	North-South
Project Description	5718.900

Site Information

Intersection	Munhall Ave / Tyler Rd
Jurisdiction	Local
East/West Street	Munhall Ave
North/South Street	Tyler Rd
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	2	0	0	0	2	0
Configuration			LR							LT	T				T	TR
Volume (veh/h)		34		5						9	418				360	50
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5		6.9						4.1						
Critical Headway (sec)		6.80		6.90						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			42							10						
Capacity, c (veh/h)			424							1130						
v/c Ratio			0.10							0.01						
95% Queue Length, Q_{95} (veh)			0.3							0.0						
Control Delay (s/veh)			14.4							8.2						
Level of Service (LOS)			B							A						
Approach Delay (s/veh)		14.4								0.2						
Approach LOS		B														

HCS7 Two-Way Stop-Control Report

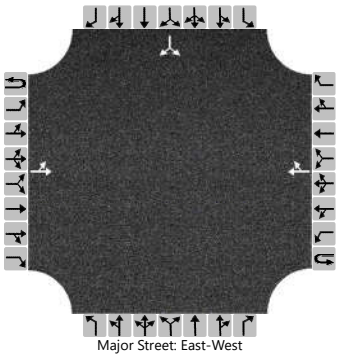
General Information

Analyst	LMM
Agency/Co.	GHA
Date Performed	9/2/2020
Analysis Year	2027
Time Analyzed	Total (Gate) AM
Intersection Orientation	East-West
Project Description	5718.900

Site Information

Intersection	Indiana/13th (N. Leg)
Jurisdiction	Local
East/West Street	Indiana Ave
North/South Street	13th Ave (N Leg)
Peak Hour Factor	0.76
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		27	15				31	21						22		21
Percent Heavy Vehicles (%)		5												6		6
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage					Undivided											

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.15												6.46		6.26
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.25												3.55		3.35

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		36													57	
Capacity, c (veh/h)		1514													898	
v/c Ratio		0.02													0.06	
95% Queue Length, Q_{95} (veh)		0.1													0.2	
Control Delay (s/veh)		7.4													9.3	
Level of Service (LOS)		A													A	
Approach Delay (s/veh)		4.8												9.3		
Approach LOS														A		

HCS7 Two-Way Stop-Control Report

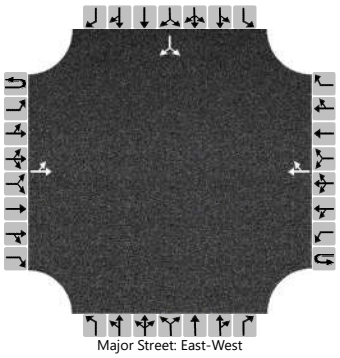
General Information

Analyst	LMM
Agency/Co.	GHA
Date Performed	9/2/2020
Analysis Year	2027
Time Analyzed	Total (Gate) PM
Intersection Orientation	East-West
Project Description	5718.900

Site Information

Intersection	Indiana/13th (N. Leg)
Jurisdiction	Local
East/West Street	Indiana Ave
North/South Street	13th Ave (N Leg)
Peak Hour Factor	0.87
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		15	21				39	26						46		32
Percent Heavy Vehicles (%)		0												3		0
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage					Undivided											

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.10												6.43		6.20
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.20												3.53		3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		17													90	
Capacity, c (veh/h)		1537													920	
v/c Ratio		0.01													0.10	
95% Queue Length, Q_{95} (veh)		0.0													0.3	
Control Delay (s/veh)		7.4													9.3	
Level of Service (LOS)		A													A	
Approach Delay (s/veh)		3.1												9.3		
Approach LOS														A		

HCS7 Two-Way Stop-Control Report

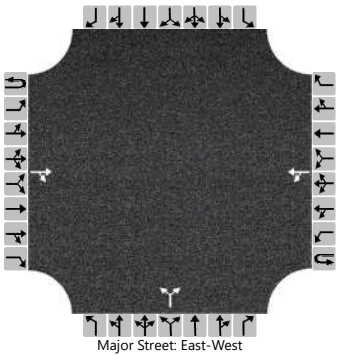
General Information

Analyst	LMM
Agency/Co.	GHA
Date Performed	9/2/2020
Analysis Year	2027
Time Analyzed	Total (Gate) AM
Intersection Orientation	East-West
Project Description	5718.900

Site Information

Intersection	Indiana/13th (S Leg)
Jurisdiction	Local
East/West Street	Indiana Ave
North/South Street	13th Stree (S Leg)
Peak Hour Factor	0.94
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			27	10		1	32			20		1				
Percent Heavy Vehicles (%)						0				20		0				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type | Storage						Undivided										

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.10				6.60		6.20				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.20				3.68		3.30				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						1					22					
Capacity, c (veh/h)						1584					897					
v/c Ratio						0.00					0.02					
95% Queue Length, Q_{95} (veh)						0.0					0.1					
Control Delay (s/veh)						7.3					9.1					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)						0.2				9.1						
Approach LOS										A						

HCS7 Two-Way Stop-Control Report

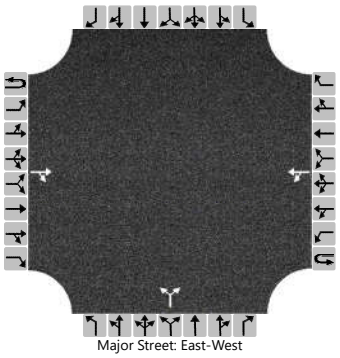
General Information

Analyst	LMM
Agency/Co.	GHA
Date Performed	9/2/2020
Analysis Year	2027
Time Analyzed	Total (Gate) PM
Intersection Orientation	East-West
Project Description	5718.900

Site Information

Intersection	Indiana/13th (S Leg)
Jurisdiction	Local
East/West Street	Indiana Ave
North/South Street	13th Stree (S Leg)
Peak Hour Factor	0.82
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			55	12		1	55			10		3				
Percent Heavy Vehicles (%)						0				0		0				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type | Storage						Undivided										

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.10				6.40		6.20				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.20				3.50		3.30				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						1					16					
Capacity, c (veh/h)						1528					881					
v/c Ratio						0.00					0.02					
95% Queue Length, Q_{95} (veh)						0.0					0.1					
Control Delay (s/veh)						7.4					9.2					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)						0.1				9.2						
Approach LOS										A						

HCS7 Two-Way Stop-Control Report

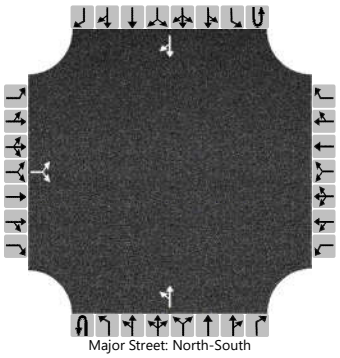
General Information

Analyst	LMM
Agency/Co.	GHA
Date Performed	9/2/2020
Analysis Year	2027
Time Analyzed	Total (Gated) AM
Intersection Orientation	North-South
Project Description	5718.900

Site Information

Intersection	Munhall Ave/Site
Jurisdiction	Local
East/West Street	Site
North/South Street	Munhall Ave
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		23		7						2	19				7	8
Percent Heavy Vehicles (%)		2		2						2						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.42		6.22						4.12						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.22						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			33							2						
Capacity, c (veh/h)			994							1601						
v/c Ratio			0.03							0.00						
95% Queue Length, Q_{95} (veh)			0.1							0.0						
Control Delay (s/veh)			8.7							7.3						
Level of Service (LOS)			A							A						
Approach Delay (s/veh)		8.7								0.7						
Approach LOS		A														

HCS7 Two-Way Stop-Control Report

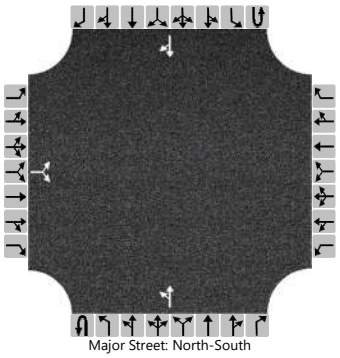
General Information

Analyst	LMM
Agency/Co.	GHA
Date Performed	9/2/2020
Analysis Year	2027
Time Analyzed	Total (Gated) PM
Intersection Orientation	North-South
Project Description	5718.900

Site Information

Intersection	Munhall Ave/Site
Jurisdiction	Local
East/West Street	Site
North/South Street	Munhall Ave
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		14		5						8	25				34	25
Percent Heavy Vehicles (%)		2		2						2						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.42		6.22						4.12						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.22						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			21							9						
Capacity, c (veh/h)			925							1536						
v/c Ratio			0.02							0.01						
95% Queue Length, Q_{95} (veh)			0.1							0.0						
Control Delay (s/veh)			9.0							7.4						
Level of Service (LOS)			A							A						
Approach Delay (s/veh)		9.0								1.8						
Approach LOS		A														

HCS7 Two-Way Stop-Control Report

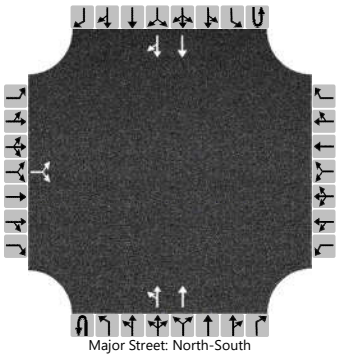
General Information

Analyst	LMM
Agency/Co.	GHA
Date Performed	9/2/2020
Analysis Year	2027
Time Analyzed	Total (Open) AM
Intersection Orientation	North-South
Project Description	5718.900

Site Information

Intersection	Munhall Ave / Tyler Rd
Jurisdiction	Local
East/West Street	Munhall Ave
North/South Street	Tyler Rd
Peak Hour Factor	0.84
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	2	0	0	0	2	0
Configuration			LR							LT	T				T	TR
Volume (veh/h)		30		9						3	366				304	10
Percent Heavy Vehicles (%)		8		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5		6.9						4.1						
Critical Headway (sec)		6.96		6.90						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.58		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			46							4						
Capacity, c (veh/h)			475							1196						
v/c Ratio			0.10							0.00						
95% Queue Length, Q_{95} (veh)			0.3							0.0						
Control Delay (s/veh)			13.4							8.0						
Level of Service (LOS)			B							A						
Approach Delay (s/veh)		13.4								0.1						
Approach LOS		B														

HCS7 Two-Way Stop-Control Report

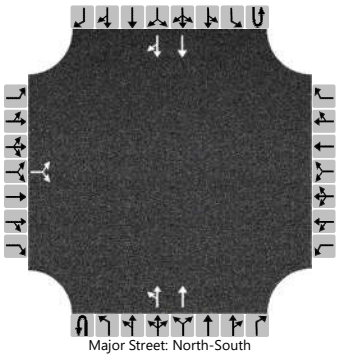
General Information

Analyst	LMM
Agency/Co.	GHA
Date Performed	9/2/2020
Analysis Year	2027
Time Analyzed	Total (Open) PM
Intersection Orientation	North-South
Project Description	5718.900

Site Information

Intersection	Munhall Ave / Tyler Rd
Jurisdiction	Local
East/West Street	Munhall Ave
North/South Street	Tyler Rd
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	2	0	0	0	2	0
Configuration			LR							LT	T				T	TR
Volume (veh/h)		31		5						9	418				360	47
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5		6.9						4.1						
Critical Headway (sec)		6.80		6.90						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			39							10						
Capacity, c (veh/h)			428							1133						
v/c Ratio			0.09							0.01						
95% Queue Length, Q_{95} (veh)			0.3							0.0						
Control Delay (s/veh)			14.3							8.2						
Level of Service (LOS)			B							A						
Approach Delay (s/veh)		14.3								0.2						
Approach LOS		B														

HCS7 Two-Way Stop-Control Report

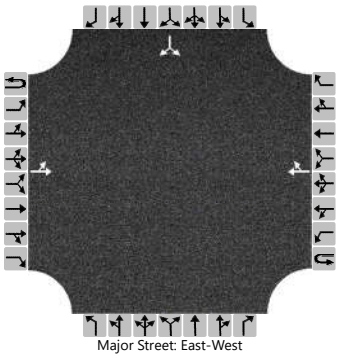
General Information

Analyst	LMM
Agency/Co.	GHA
Date Performed	9/2/2020
Analysis Year	2027
Time Analyzed	Total (Open) AM
Intersection Orientation	East-West
Project Description	5718.900

Site Information

Intersection	Indiana/13th (N. Leg)
Jurisdiction	Local
East/West Street	Indiana Ave
North/South Street	13th Ave (N Leg)
Peak Hour Factor	0.76
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		27	16				33	23						24		21
Percent Heavy Vehicles (%)		5												6		6
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage					Undivided											

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.15												6.46		6.26
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.25												3.55		3.35

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		36													59	
Capacity, c (veh/h)		1507													889	
v/c Ratio		0.02													0.07	
95% Queue Length, Q_{95} (veh)		0.1													0.2	
Control Delay (s/veh)		7.4													9.3	
Level of Service (LOS)		A													A	
Approach Delay (s/veh)		4.7												9.3		
Approach LOS														A		

HCS7 Two-Way Stop-Control Report

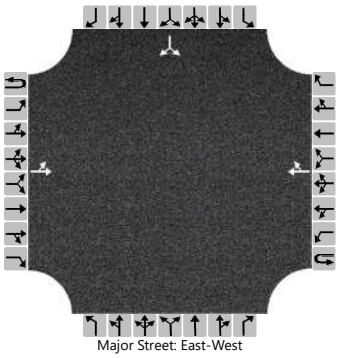
General Information

Analyst	LMM
Agency/Co.	GHA
Date Performed	9/2/2020
Analysis Year	2027
Time Analyzed	Total (Open) PM
Intersection Orientation	East-West
Project Description	5718.900

Site Information

Intersection	Indiana/13th (N. Leg)
Jurisdiction	Local
East/West Street	Indiana Ave
North/South Street	13th Ave (N Leg)
Peak Hour Factor	0.87
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		15	23				41	28						47		32
Percent Heavy Vehicles (%)		0												3		0
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage					Undivided											

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.10												6.43		6.20
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.20												3.53		3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		17													91	
Capacity, c (veh/h)		1532													913	
v/c Ratio		0.01													0.10	
95% Queue Length, Q_{95} (veh)		0.0													0.3	
Control Delay (s/veh)		7.4													9.4	
Level of Service (LOS)		A													A	
Approach Delay (s/veh)		3.0												9.4		
Approach LOS														A		

HCS7 Two-Way Stop-Control Report

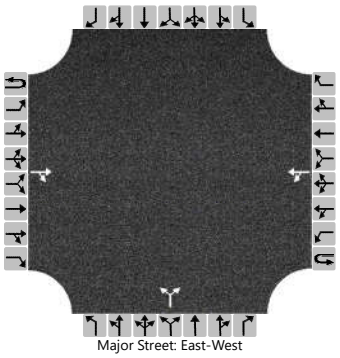
General Information

Analyst	LMM
Agency/Co.	GHA
Date Performed	9/2/2020
Analysis Year	2027
Time Analyzed	Total (Open) AM
Intersection Orientation	East-West
Project Description	5718.900

Site Information

Intersection	Indiana/13th (S Leg)
Jurisdiction	Local
East/West Street	Indiana Ave
North/South Street	13th Stree (S Leg)
Peak Hour Factor	0.94
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			30	10		1	36			20		1				
Percent Heavy Vehicles (%)						0				20		0				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type | Storage						Undivided										

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.10				6.60		6.20				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.20				3.68		3.30				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						1					22					
Capacity, c (veh/h)						1579					888					
v/c Ratio						0.00					0.03					
95% Queue Length, Q_{95} (veh)						0.0					0.1					
Control Delay (s/veh)						7.3					9.2					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)						0.2				9.2						
Approach LOS										A						

HCS7 Two-Way Stop-Control Report

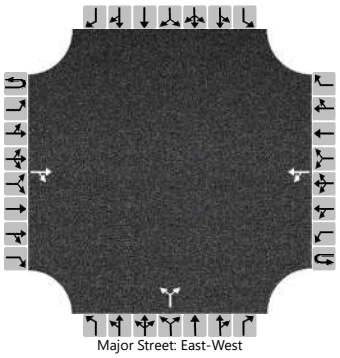
General Information

Analyst	LMM
Agency/Co.	GHA
Date Performed	9/2/2020
Analysis Year	2027
Time Analyzed	Total (Open) PM
Intersection Orientation	East-West
Project Description	5718.900

Site Information

Intersection	Indiana/13th (S Leg)
Jurisdiction	Local
East/West Street	Indiana Ave
North/South Street	13th Stree (S Leg)
Peak Hour Factor	0.82
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			60	12		1	59			10		3				
Percent Heavy Vehicles (%)						0				0		0				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type | Storage						Undivided										

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.10				6.40		6.20				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.20				3.50		3.30				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						1					16					
Capacity, c (veh/h)						1521					870					
v/c Ratio						0.00					0.02					
95% Queue Length, Q_{95} (veh)						0.0					0.1					
Control Delay (s/veh)						7.4					9.2					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)						0.1				9.2						
Approach LOS										A						

HCS7 Two-Way Stop-Control Report

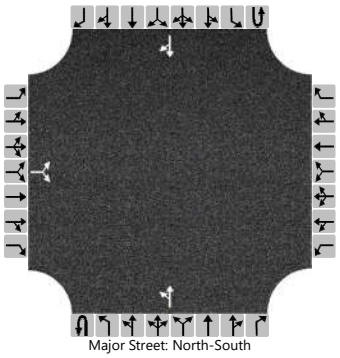
General Information

Analyst	LMM
Agency/Co.	GHA
Date Performed	9/2/2020
Analysis Year	2027
Time Analyzed	Total (Open) AM
Intersection Orientation	North-South
Project Description	5718.900

Site Information

Intersection	Munhall Ave/Site
Jurisdiction	Local
East/West Street	Site
North/South Street	Munhall Ave
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		20		6						1	19				7	6
Percent Heavy Vehicles (%)		2		2						2						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.42		6.22						4.12						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.22						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			29							1						
Capacity, c (veh/h)			998							1604						
v/c Ratio			0.03							0.00						
95% Queue Length, Q_{95} (veh)			0.1							0.0						
Control Delay (s/veh)			8.7							7.2						
Level of Service (LOS)			A							A						
Approach Delay (s/veh)		8.7								0.4						
Approach LOS		A														

HCS7 Two-Way Stop-Control Report

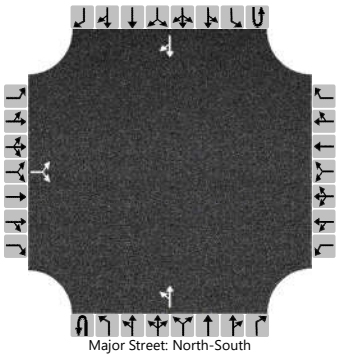
General Information

Analyst	LMM
Agency/Co.	GHA
Date Performed	9/2/2020
Analysis Year	2027
Time Analyzed	Total (Open) PM
Intersection Orientation	North-South
Project Description	5718.900

Site Information

Intersection	Munhall Ave/Site
Jurisdiction	Local
East/West Street	Site
North/South Street	Munhall Ave
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		11		4						6	25				34	22
Percent Heavy Vehicles (%)		2		2						2						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.42		6.22						4.12						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.22						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			17							7						
Capacity, c (veh/h)			933							1541						
v/c Ratio			0.02							0.00						
95% Queue Length, Q_{95} (veh)			0.1							0.0						
Control Delay (s/veh)			8.9							7.3						
Level of Service (LOS)			A							A						
Approach Delay (s/veh)		8.9								1.4						
Approach LOS		A														