MANDEL GROUP

330 East Kilbourn Avenue
Suite 600 South
Milwaukee, Wisconsin 53202
414 . 347 . 3600
mandelgroup.com

July 14, 2021

VIA E-mail

Colin Punt
Planner| Department of Planning & Community & Economic Development
Planning Division
Madison Municipal Building, Suite 017
215 Martin Luther King Jr. Blvd.
Madison, WI 53703

RE: Letter of Intent | Element Collective at University Research Park

Mr. Punt:

Please find enclosed the following materials provided in fulfillment of submission requirements for a Conditional Use application for our proposed "Element Collective" development located within University Research Park:

- Conditional Use Application
- Legal Description and Final Plat (to be recorded)
- Pre-Application Notification to Alder Furman
- Development Plans (Architectural, Civil, Landscape & Photometric)
- Transportation Demand Management Plan
- Traffic Impact Study
- Stormwater Report

The information provided below serves as our Letter of Intent in support of the above-referenced application.

Development Summary

Introduction

Mandel Group, Inc. ("Mandel"), a private real estate developer, is partnering with University Research Park, Inc. ("URP"), a non-profit affiliate of the University of Wisconsin, to realize a mixed-use development on approximately 7.4 acres located at the southwest corner of Mineral Point Road and Whitney Way on Madison's West Side. In order to continue evolving into a highly attractive center of innovation and technology transfer, URP seeks to create an environment that supports research park businesses and employees, and encourages interaction between employees. Element Collective will further open to the neighborhoods surrounding the research park, bringing a unique set of experiences for area residents. The development is anchored by a food hall housing locally-curated vendors, and a state-of-the-art fitness and climbing facility. Element Collective is activated by multifamily housing, a future hotel, and a new lab building. Combined, these three components create a 24/7/365 baseline of activity that supplement the demand-driven users from within the research park and surrounding community.

In order to foster place-making and continue the evolution towards a more multi-modal community, URP and Mandel are focused on providing opportunities for a variety of modes of transportation within University Research Park. Systems which are under consideration and that focus on Element Collective include B-Cycle, multi-use paths,

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shuttle options and the reservation of space for a future BRT bus station. Orienting mixed-use development to this corner of the park is well aligned with the goals of URP and their modified Design Covenants, creating a destination cluster guided by multi-modal design standards that reduce emphasis of auto-centric design. The net effect is creation of a pedestrian scale environment that links together uses within Element Collective and enhancing connectivity of Element Collective with the research park and the surrounding neighborhoods.

Element Collective is the first development within University Research Park that will be designed to the City's recently adopted, enhanced stormwater ordinance providing for design that responds to a 200-year storm event. As a result, substantial new stormwater facilities will be developed which, in turn, provide opportunities to create new micro-environments and broader options for habitat development.

Element Collective will bring a pedestrian-scaled environment to the University Research Park in fulfillment of the park's refined development goals first announced in 2018 – to connect businesses and employees together through a re-imagining of the built environment within URP. Concurrently, park employees, residents and patrons alike are encouraged to "find their element" at Element Collective and enjoy its interconnected, walkable setting and opportunities to connect to and explore the greater research park environs.

Element District Progress

In Fall of 2020, Mandel and URP submitted a rezoning and plat application that was approved conditionally by all governing bodies in early 2021. This established the framework that best fit the proposed land uses included in Element District and provided planning guidelines by way of setbacks and other requirements established in the City of Madison Code of Ordinances. The Final Plat is included in this application as Exhibit C.

The project was presented to URP's Design Review Board on July 1, 2021 and received unanimous approval.

The intent of this application is to request approval from the Planning Commission for Conditional Uses related to the mixed-use multifamily building, the furthest west building in the Development zoned Traditional Shopping Street (TSS).

The following is a general description of the Development subject to change pending City input:

Mixed-Use Multifamily Apartments

- 179 Units over 2 levels of underground parking
- 3,000 SF Retail along Catalyst Drive
- 1,400 SF Café along Catalyst Drive

Lab + Office

- 125,000 SF

Food Hall + Fitness Center

- 38,000 SF combined uses
    - Food Hall with Rotating Vendors
    - Climbing Gym + Fitness Center
    - Rooftop amenity for events and bars

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Hotel + Related Retail/Food + Beverage

- Estimated at 120 Keys (to be developed as Phase II)

Project Schedule + Phasing Plan

Phase I

- Summer 2021 – Break Ground on Sitework and Public Infrastructure
- Fall 2021 – Break Ground on Multifamily and Lab
- Summer 2022 – Break Ground on Food Hall/Gym
- Summer 2023 – Multifamily Units Available for Rent, Lab, Food Hall and Fitness Center Open

Phase II

- Summer 2023 – Break Ground on Hotel
- Fall 2024 – Hotel Open for Business

Conditional Use Requests

Please note that this application is related specifically to the mixed-use multifamily building consisting of apartments, retail, café and private parking garage, the furthest west building in the portion of Lot 1 zoned Traditional Shopping Street (TSS).

TRADITIONAL SHOPPING STREET (TSS) DISTRICT

	CODE SECTION	**CONDITIONAL USE REQUIRING APPROVAL**	**APPLICABLE TO**	**PROPOSED**
1.	28.061 (1) MIXED-USE AND COMMERCIAL DISTRICT USES	MULTI-FAMILY DWELLING (>8 UNITS)	MULTIFAMILY BUILDING	179 UNITS
2.	28.061 (1) MIXED-USE AND COMMERCIAL DISTRICT USES	OUTDOOR EATING AREA ASSOCIATED WITH FOOD & BEVERAGE ESTABLISHMENT	TERRACE OUTSIDE OF CAFÉ IN MULTIFAMILY BUILDING	OUTDOOR EATING AREA
3.	28.061 (1) MIXED-USE AND COMMERCIAL DISTRICT USES	OUTDOOR RECREATION	MULTIFAMILY BUILDING	PRIVATE POOL FOR RESIDENTS
4.	28.061 (1) MIXED-USE AND COMMERCIAL DISTRICT USES	PARKING FACILITY, MIXED PUBLIC/PRIVATE USE	PARKING PODIUM	328 STALL PRIVATE PARKING GARAGE WITH PUBLIC ACCESS
5.	28.065 (3)(c) – TRADITIONAL SHOPPING STREET DISTRICT	BUILDING HEIGHT EXCEEDING 3 STORIES/40’	MULTIFAMILY BUILDING	6 STORIES ABOVE GRADE/ MAX 77’-11” ABOVE GRADE

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Conditional Use Request Rationale

1. Multi-family Dwelling over 8 Units (*Proposed: 179 Units*)

A constantly growing city, Madison is expected to see a continued rise in population. The University Research Park is also expected to see growth as companies are expanding and bio-technology related fields are gaining importance more so now than ever in the past. With recent Exact Sciences expansion and other companies working closely with URP to expand their spaces, it is evident that there is a lack of rental housing supply in this pocket of Madison to meet the demand of the growing employment population. The 179 units at Element Collective will provide an integrated housing opportunity immediately adjacent to locations of dense employment, allowing URP employees the chance to walk to work. The location also provides great access to transit including future BRT, connecting Element Collective to campus, the downtown and other employment concentrations throughout the metro area. Finally, introduction of a 24/7 resident base provides baseline spending power for the adjacent Food Hall, Climbing Gym, and other commercial businesses outside of normal M-F business hours.

It should be noted that while the building is in excess of the maximum unit allowance, the Development still meets the minimum lot area requirement set forth in TSS for residential use which is 500 SF/dwelling unit (Section 28.065). The proposed lot size is 97,157 SF (542 SF/dwelling unit).

2. Outdoor Eating Area Associated with Food and Beverage (*Proposed: Outdoor plaza associate with café*)

Included at the east entrance of the building will be a café featuring breakfast, lunch and afternoon offerings. Given its functionality as not only the front door for the apartments but also a café for public patronage, we wanted to provide highly-desirable outdoor casual dining as an activator for Catalyst Drive. An 850 SF outdoor plaza will supplement indoor seating during busy times and favorable weather. The plaza for the café will have two connections to the Catalyst Drive sidewalk system at opposite ends of the terrace area. It will be lined with a heavily planted landscape bed with trees to provide screening between the public walk and eating area. Please see sheet A1.P2 in the Development Plans for an enlarged view of the plaza.

The seating will function as a public gathering space as well as made available for food and beverage clientele on a non-reserved basis. Patrons of the café may order food inside, take counter delivery and walk it out to an available table. There is no table service anticipated other than periodic bussing and cleaning. Disposal and recycling bins will be placed in an appropriate spot to collect trash and retrieve recyclable trays, glasses, and utensils.

3. Outdoor Recreation (*Proposed: Private amenity deck including swimming pool and outdoor activity area*)

The multifamily building design includes an amenity deck approximately 20’ above the sidewalk level, where a private pool and amenity center are located for use by residents and their invited guests. We intentionally designed the courtyard to be south facing to extend the season for users and open towards Catalyst to provide additional activation for the District. We have had great success at our other developments with similar amenity features where residents enjoy congregating and getting together on a social level. The amenity deck will be maintained by the onsite property management team and will be access-controlled at all times.. The amenity deck and pool proper are both within the security envelope created by the property’s access control system.

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4. Parking Facility, Mixed Public-Private Use (*Proposed: Parking garage beneath 4-story multifamily building*)

The garage is providing parking for multiple users. Level P1 is reserved for the apartment residents and is considered accessory by Code (Section 28.211). Level P2 will be open for public parking and is expected to accommodate office and commercial patronage generated by other uses within the Catalyst District. We are encouraging multi-modal transit within the Research Park to maximize non-auto trips, which preserves as much parking capacity as possible for off-site visitors. Regardless of multi-modal solutions our research confirms the reliance on automobiles as a primary means of destination arrival from outside the Research Park.

The parking facility meets or exceeds parking counts using the Code's Shared Parking Calculations (Table 28I-5) for the apartments, retail, café, in addition to overflow parking for lab employees of the Element Lab project located on a nearby parcel within the Catalyst District. The 328-stall count provides adequate shared parking for the future Food Hall and Climbing gym patrons. The parking facility will be owned and operated by private ownership affiliated with the Element Collective project. See Exhibit D for Shared Parking Calculations.

5. Building Height Exceeding 3 Stories/40' (*Proposed: Minimum 4 stories/Maximum 6 stories above grade*)

The building is designed into the steep grade that naturally occurs on the site. At its western extreme the building is four (4) stories above grade and approximately 45' tall. At the easterly end of the building which is the low end of the slope, the building will measure 77'-11' above grade and will be six (6) stories in profile from the adjoining grade. Between these two extremes (which represent 33+ feet of grade fall) the height as measured from adjoining grade is variable. As well the presence of a large interior courtyard provides substantial massing relief at the street frontage along Catalyst Way, reducing the height experienced by pedestrians to be less than the 3 story/40' baseline standard (see sheet A-3.10 for Elevations):

	TSS Zoning Maximum	West End	East End
Stories	3	4	6
Height	40'	45'	78'

For most parcels located along TSS-zoned neighborhood streets, it is appropriate to keep the buildings at a smaller scale to encourage more seamless interfaces with surrounding residential neighborhoods. In these cases the intent of the District is to sustain the viability of mixed-use corridors within many of the City's traditional neighborhoods (Section 28.065) that are built at one and two-story scales.

At University Research Park the application of TSS zoning is a rather unique case in that this lot is surrounded by zoning that permits taller maximum building heights and where building pads are substantially larger that the floorplates of buildings in neighborhood TSS districts. Contextually, the Element Collective building is situated slightly lower than the new Element Lab building (Sheet AS1.01 In Development Plans for Section view), and is generally aligned with its neighbor to the south the new Innovation One building. Further to the west the First Business Bank center sits on higher ground (+21 feet higher than the west/high end of Element Collective) and projects an overall vertical height of 48' (based on satellite telemetry) to 1094' MSL, roughly 2 feet taller than the Element Collective building.

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Operating Plan

Multifamily

The apartments will function as a private residential building with access-control features that create a secure environment for residents. Access to the residential parking level, access onto residential elevators and access onto the residential green roof/amenity deck requires a resident fob or pass code. The east entrance lobby for the east building will be through an activated space featuring a Café and co-working space. The lobby will be accessible by residents as well as the public. The second level lobby overlooking the first floor will include the property's leasing/management center, fitness gym, and postal/package delivery.

The west entrance lobby is single-height space in which multiple resident amenity spaces are located – sports center with multiple TVs and table games; pet grooming room; a bike repair concession space (intended to be leased to a third party operator) and a large bike storage room. The bike concession space will have separate outside access as well as a connection to the resident lobby space. The lobby area will be access-controlled.

Café

The Café will be operated by a local restauranteur and function as a breakfast, lunch and afternoon snacks establishment. The anticipated hours of operation are from 6:00 AM until 5:00 PM. Patrons will be able to order food, wait for it and bring it to an unassigned table. We do not anticipate table-service staffing. Employees will be primarily in the kitchen, behind the counter, as well as performing bussing and cleaning protocols throughout the seating areas. Recyclable trays, glassware, dishes and utensils will be collected at central bussing locations.

Retail

The retail space is intended for convenience service and retail businesses serving residents, business park employees and the public at large. We expect the hours of operation to be from 8:00 A.M to 9:00 P.M.

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Development Team Contacts

Developer	
Mandel Group, Inc. Robert B. Monnat, Senior Partner 330 E. Kilbourn Ave, Suite 600 South Milwaukee, WI 53202 rbmonnat@mandelgroup.com o: 414-270-2741 c: 414-416-7400	**Mandel Group, Inc.** Elizabeth Adler, Development Associate 330 E. Kilbourn Ave, Suite 600 South Milwaukee, WI 53202 eadler@mandelgroup.com o: 414-270-2608 c: 262-707-6403
Civil Engineer + Surveyor	
D'Onofrio Kottke Ron Klaas, President 7530 Westward Way Madison, WI 53717 rklaas@donofrio.cc o: 608-833-7530	**D'Onofrio Kottke** Will Kottler, Project Engineer 7530 Westward Way Madison, WI 53717 wkottler@donofrio.cc o: 608-833-7530
Architect	
Tryba Architects David Tryba, FAIA Lead Design Principal 1620 Logan Street Denver, CO 80203 dtryba@trybaarchitects.com o: 303-831-4010	**Tryba Architects** Kathleen Fogler, AIA Associate Principal, Urban Designer 1620 Logan Street Denver, CO 80203 kfogler@trybaarchitects.com o: 303-831-4010
Tryba Architects Brandon Fruhwirth, AIA Senior Associate, Project Architect brfruhwirth@trybaarchitects.com o: 303-831-4010	**Tryba Architects** Abby Branch Job Captain abranch@trybaarchitects.com o: 303-831-4010
Tree Surveyor	**Stormwater Consultant**
Allison Tree, LLC R. Bruce Allison, MS, PHD ISA Board Certified Master Arborist rbruceallison@tds.net o: 608-848-2345	**SmithGroup** David Wolmutt, PE Associate, Civil Engineer Dave.Wolmutt@smithgroup.com o: 608-327-4446
University Research Park, Inc.	
Aaron Olver Managing Director 510 Charmany Drive Madison, WI 53719 Aaron.olver@wisc.edu	**Paul Muench** Associate Director 510 Charmany Drive Madison, WI 53719 pdmuench@wisc.edu

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Following the public approvals process for the Conditional Use application related to the mixed-use multifamily building, Mandel will submit Conditional Use applications specific to the Climbing Gym and Food Hall building. As demonstrated by this application, given the unique nature of the design there are several conditions that require additional consideration in order to conform each project component with the underlying zoning districts.

Thank you for your consideration, we look forward to your feedback. Should you have any questions, do not hesitate to reach out. I can be reached directly on my cell phone at 262-707-6403 or via email at eadler@mandelgroup.com

Kind Regards,

Elizabeth Adler
Development Associate
Mandel Group, Inc.

CC: Bob Monnat
Aaron Olver
Paul Muench

Enclosures

Exhibit A – Land Use Application
Exhibit B – Pre-Application Notification
Exhibit C – Property Legal Descriptions
Exhibit D – Final Plat
Exhibit E – Shared Parking Calculations
Exhibit F – Landscape Worksheet
Exhibit G – Fire Hydrant Worksheet
Exhibit H – Development Plans
Exhibit I – Transportation Demand Management Plan
Exhibit J – Traffic Impact Analysis
Exhibit K – Stormwater Transmittal

EXHIBIT A

LAND USE APPLICATION - INSTRUCTIONS & FORM

LND-A

This document describes the process and application requirements for Land Use Applications requiring Plan Commission review and approval.

If you need an interpreter, translator, materials in alternate formats or other accommodations to access these forms, please call the Planning Division at (608) 266-4635.

Si necesita interprete, traductor, materiales en diferentes formatos, u otro tipo de ayuda para acceder a estos formularios, por favor llame al (608) 266-4635.

Yog tias koj xav tau ib tug neeg txhais lus, tus neeg txhais ntawv, los sis xav tau cov ntaub ntawv ua lwm hom ntawv los sis lwm cov kev pab kom paub txog cov lus qhia no, thov hu rau Koog Npaj (Planning Division) (608) 266-4635.

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Planning Division
Madison Municipal Building, Suite 017
215 Martin Luther King, Jr. Blvd.
P.O. Box 2985
Madison, WI 53701-2985
(608) 266-4635

INSTRUCTIONS

Prior to Application Submittal

1. **Pre-Application Meeting.** Prior to the submittal of a Land Use Application, the applicant is strongly encouraged to meet with Planning and Zoning staff to discuss the development proposal, review concept plans in detail, and discuss the approval process. Applicants are also strongly encouraged to meet with the district alderperson, adjoining neighbors/ property owners, and neighborhood association(s), if applicable, prior to submitting an application. If UDC review or approval is also required, a pre-application meeting with the UDC Secretary is required. Call the Planning Division at (608) 266-4635 for further assistance and to set up an appointment.
2. **Pre-Application Notification.** A letter or email notifying 1) the **alderperson** (http://www.cityofmadison.com/Council/councilMembers/map.cfm), 2) any **City-registered neighborhood association(s)** (https://www.cityofmadison.com/dpced/planning/documents/Neighborhood_Associations.pdf), and 3) any **City-listed business association(s)** (https://www.cityofmadison.com/dpced/economicdevelopment/neighborhoodbusinessassociations.cfm) serving the subject site, must be sent by the applicant **at least 30 days** prior to submitting an application. This notice ***must clearly state*** **that the applicant is "intending to file a [demolition/conditional use/zoning map amendment] application"** and ***specify*** **the project address**. **If this notice requirement is not met, an application will not be accepted.** Notices may also include other information such as contact information, timelines, or descriptions of the proposal. Note: The alderperson and the Director of Planning & Community & Economic Development may waive or reduce the 30-day notification requirement. A copy of the pre-application notification letters or any correspondence granting a waiver or reduction of the 30 days is required to be submitted as part of the application materials.

   Additional Notification Requirement for Demolition Permits: For all Demolition requests, posting notice of the requested demolition to the Demolition Listserv is required **at least 30 days** prior to submitting an application. Demolition Listserv: https://www.cityofmadison.com/developmentCenter/demolitionNotification/notificationForm.cfm.

Submitting Your Application

1. **Submittal Deadline Date.** Application submittal deadlines are as noted on the annual Development Review Schedule (https://www.cityofmadison.com/dpced/planning/documents/Joint_UDC_Plan_Commission_Schedule.pdf) for the Plan Commission (PC) and Urban Design Commission (UDC). These are Wednesdays at 12:00 p.m., unless otherwise noted. Submittals should be dropped off at the Zoning Counter on the lower level of the Madison Municipal Building, located at the address noted at the top of this page.
2. **Submittal Appointments**. Land Use Applications are encouraged to be submitted by appointment at the Zoning Counter. To schedule an appointment, please call the Zoning Department at (608) 266-4551. Appointments will be scheduled on a first come - first served basis and must occur at or before 11:45 a.m. on the submission deadline date.

   For Joint UDC + Land Use Applications: If your project requires both UDC and Land Use Application submittals, a completed UDC Application (https://www.cityofmadison.com/dpced/planning/documents/UDCApp.pdf) and accompanying submittal materials are also required. Late application submittals will be scheduled for the next application review cycle.
3. **Completeness Review.** Per Section 28.181(4), MGO, **the Zoning Administrator may refuse to accept an application, if it is determined to be incomplete.** A "complete" application includes a completed Land Use Application Form (pages 3-5 of this form) and the submission of all required application materials as indicated on its Submittal Checklist (page 4). For a detailed list of the content requirements for the various plan sheets, as well as the submittal requirements for those application types requiring supplemental materials, please see Land Use Application Form LND-B (https://www.cityofmadison.com/dpced/bi/documents/LUAChecklist.pdf). Applications deemed complete will be scheduled for the public hearing date(s) specified on the Development Review Schedule (see #1 above).
4. **Digital Copies Required.** Digital copies (PDFs) of all items submitted in hard copy are required, as described on the Land Use Application Form.

INSTRUCTIONS (CONTINUED)

After Filing an Application

1. **Public Notice.** This will occur in three ways: 1) The Zoning Administrator will prepare a "notice of hearing" sign, which **the applicant must post in a highly visible location on the subject site at least 21 days prior** to the scheduled public hearing; 2) City staff will post notice in the Wisconsin State Journal; and 3) City staff will notify, by mail, the applicant as well as property owners and occupants within 200 feet of the boundaries of the property.
2. **Development Review.** Application materials will be circulated to several City agencies for review. Upon completion of the development review process by staff, the applicant will receive a copy of the staff report to the Plan Commission – containing staff's analysis and recommended conditions of approval – prior to the scheduled public hearing. Note: review of construction drawings, submitted in order to obtain building permits, is a separate process which is not included in the review of land use applications.
3. **Post-Submission Design Changes**. Please note that subsequent revisions to submittal materials will likely result in rescheduling of public hearings (i.e. being deferred to a later review cycle).

Plan Commission Review Process

1. **Plan Commission Attendance Required.** Please note that the applicant or a representative is required to attend the Plan Commission public hearing and should remain at the meeting until the Commission votes on their item. The attendee should be prepared to provide a brief overview to the Plan Commission (with visual aids, if desired) and answer questions related to the application proposal. Failure to appear at the scheduled hearing may cause referral of the matter to a future hearing date.
2. **Final Action.** The Plan Commission is the decision-making body for the majority of Land Use Applications, with the exception of rezoning, annexation, subdivision, and zoning text amendment requests (the latter three however, use a different application form). The Plan Commission can approve, conditionally approve, reject (deny), or refer (to a future hearing) those Land Use Applications that it has purview over based on their review of the request for consistency with the applicable review criteria and development standards found in City ordinances. For all other Land Use Applications, the Plan Commission will make an advisory recommendation to the Common Council, who will take final action to approve, conditionally approve, or reject the application.
3. **Disposition Letter and Next Steps.** After final action has been taken on an application, the Planning Division will draft a disposition letter that provides a detailed list of the conditions of approval. The disposition letter will also contain instructions for finalizing the requested land use approvals which are required prior to receiving permits for demolition or new construction. A copy of the letter will be sent to the contact person identified on the application.

Finalizing Approval

1. **Plan Revision and Resubmission**. After approval is granted, the applicant is responsible for satisfying the various conditions of approval, as contained in the Disposition Letter. If the applicant should have specific questions about a condition, they should contact the particular agency that submitted the condition. The applicant shall then resubmit plan sets as specified in the Disposition Letter along with the filing fee (see the filing fee table on Page 6). These plan sets are then distributed to City Agencies who submitted conditions of approval during the initial plan review to verify that their conditions, along with any applicable requirements have been satisfied. When the revised plans are submitted, the applicant will be emailed a hyperlink to a website to follow, in real time, which agencies have reviewed the revised documents, and signed off or need additional information.
2. **Final Approval**. Once all City Agencies have signed off, Zoning Staff will issue final approval and the applicant may then pull any other necessary permits. Note: separate building, sign, or demolition permits issued by the Building Inspection Division will be required before work on the project can commence. Questions on this matter should be directed to the Building Inspection Division, (608) 266-4551.

LAND USE APPLICATION - INSTRUCTIONS & FORM

LND-A

City of Madison
Planning Division
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Madison, WI 53701-2985
(608) 266-4635

All Land Use Applications must be filed with the Zoning Office at the above address.

This completed form is required for all applications for Plan Commission review except subdivisions or land divisions, which should be filed using the Subdivision Application found on the City's web site. (http://www.cityofmadison.com/development-services-center/documents/SubdivisionApplication.pdf)

FOR OFFICE USE ONLY:

Paid _____ Receipt # _____

Date received _____

Received by _____

☐ Original Submittal ☐ Revised Submittal

Parcel # _____

Aldermanic District _____

Zoning District _____

Special Requirements _____

Review required by _____

☐ UDC ☐ PC
☐ Common Council ☐ Other _____

Reviewed By _____

APPLICATION FORM

1. Project Information

Address: 421 Charmany Drive

Title: Element Collective

2. This is an application for (check all that apply)

- ☐ Zoning Map Amendment (Rezoning) from _____ to _____
- ☐ Major Amendment to an Approved Planned Development-General Development Plan (PD-GDP) Zoning
- ☐ Major Amendment to an Approved Planned Development-Specific Implementation Plan (PD-SIP)
- ☐ Review of Alteration to Planned Development (PD) (by Plan Commission)
- ☑ Conditional Use or Major Alteration to an Approved Conditional Use
- ☐ Demolition Permit
- ☐ Other requests _____

3. Applicant, Agent and Property Owner Information

Applicant name Elizabeth Adler Company Mandel Group, Inc.

Street address 330 E. Kilbourn Ave, Suite 600 South City/State/Zip Milwaukee / WI / 53212

Telephone 262-707-6403 Email eadler@mandelgroup.com

Project contact person Applicant Company _____

Street address _____ City/State/Zip _____

Telephone _____ Email _____

Property owner (if not applicant) University Research Park, Incorporated

Street address 510 Charmany Drive City/State/Zip Madison / WI / 53719

Telephone 608-441-8020 Email pdmuench@wisc.edu

4. Required Submittal Materials

Pursuant to Section 28.181(4), MGO, no application is complete unless all required information is included and all application fees have been paid. **The Zoning Administrator may reject an incomplete application.** Use this checklist to prepare a complete Land Use Application. Note: Not all development plan materials listed below are required for all applications. Submittal materials are as determined by staff. Those application types which have specific additional submittal requirements, as noted below, are outlined in Land Use Application Form LND-B (https://www.cityofmadison.com/dpced/bi/documents/LUAChecklist.pdf).

Req.	Required Submittal Information	Contents	No. of Copies	✓
	Filing Fee ($)	Refer to the Fee Schedule on Page 6. Make checks payable to City Treasurer.	1	
	Land Use Application	Forms must include the property owner's authorization.	1	
	Legal Description (For Zoning Map Amendments only)	Legal description of the property, complete with the proposed zoning districts and project site area in square feet and acres.	1	
	Pre-Application Notification	Proof of written 30-day notification to alder, neighborhood association, and business associations. In addition, Demolitions require posting notice of the requested demolition to the City's Demolition Listserv at least 30 days prior to submitting an application. For more information, see Page 1 of this application.	1	
	Letter of Intent (LOI)	Narrative description of the proposal in detail, including, but not limited to, the existing site conditions, project schedule, phasing plan, proposed uses, hours of operation, number of employees, gross square footage, number of units and bedrooms, public subsidy requested, project team, etc. ** **When submitting, you must collate the Letters of Intent with the Development Plans** **	28	
	Development Plans	Twenty-Eight (28) legible & scaled 11" x 17" copies, collated and stapled.	28	
	Site Plan	** **When submitting, you must collate the Letters of Intent with the Development Plans** ** For a detailed list of the content requirements for each of these plan sheets, please see Land Use Application Form LND-B (https://www.cityofmadison.com/dpced/bi/documents/LUAChecklist.pdf)		
	Survey or site plan of existing conditions			
	Grading Plan			
	Utility Plan			
	Landscape Plan and Landscape Worksheet			
	Building Elevations			
	Roof and Floor Plans			
	Fire Access Plan and Fire Access Worksheet			
	Supplemental Requirements (Based on Application Type)	Additional materials are required for the following application types noted below. Please see Land Use Application Form LND-B (https://www.cityofmadison.com/dpced/bi/documents/LUAChecklist.pdf) for a detailed list of the submittal requirements for these application types. The following Conditional Use Applications: ☐ Lakefront Developments ☐ Outdoor Eating Areas ☐ Development Adjacent to Public Parks ☐ Demolition Permits ☐ Modifications to Parking Requirements (i.e. Parking Reductions or Exceeding the Maximum) ☐ Development within Downtown Core (DC) and Urban Mixed-Use (UMX) Zoning Districts ☐ Zoning Map Amendments (i.e. Rezonings) ☐ Planned Development General Development Plans (GDPs) / Planned Development Specific Implementation Plans (SIPs)	Include in Plan Set as required	
	Digital Copies of all Submitted Materials	Digital copies of all items, submitted in hard copy are required. All development plan set sheets must be scalable to full- and half-size sheets. Individual PDF files of each item submitted should be compiled on a CD or flash drive, or in an email to pcapplications@cityofmadison.com. The email must include the project address, project name, and applicant name. Electronic submittals via file hosting services (such as Dropbox.com) are not allowed. Applicants who are unable to provide the materials electronically should contact the Planning Division at (608) 266-4635 for assistance.	1	

APPLICATION FORM (CONTINUED)

5. Project Description

Provide a brief description of the project and all proposed uses of the site:

Mixed-use development consisting of multifamily housing, retail and a cafe with outdoor seating.

See Letter of Intent for further information.

Proposed Dwelling Units by Type (if proposing more than 8 units):

Efficiency: 40 1-Bedroom: 0 2-Bedroom: 0 3-Bedroom: 0 4+ Bedroom: 0

Density (dwelling units per acre): 53 DU/AC Lot Size (in square feet & acres): 146,153 SF / 3.355 AC

Proposed On-Site Automobile Parking Stalls by Type (*if applicable*):

Surface Stalls: 0 Under-Building/Structured: 0

Proposed On-Site Bicycle Parking Stalls by Type (*if applicable*):

Indoor: 0 Outdoor: 0

Scheduled Start Date: Fall 2021 Planned Completion Date: Summer 2023

6. Applicant Declarations

☑ **Pre-application meeting with staff**. Prior to preparation of this application, the applicant is strongly encouraged to discuss the proposed development and review process with Zoning and Planning Division staff. Note staff persons and date.

Planning staff Colin Punt Date 5/3/2021

Zoning staff Jenny Kirchgatter Date 5/3/2021

☐ **Demolition Listserv** (https://www.cityofmadison.com/developmentCenter/demolitionNotification/notificationForm.cfm).

☑ Public subsidy is being requested (indicate in letter of intent)

☑ **Pre-application notification**: The zoning code requires that the applicant notify the district alder and all applicable neighborhood and business associations **in writing no later than 30 days prior to FILING this request**. Evidence of the pre-application notification or any correspondence granting a waiver is required. List the alderperson, neighborhood association(s), business association(s), AND the dates notices were sent.

District Alder Keith Furman Date 4/7/2021

Neighborhood Association(s) _____ Date _____

Business Association(s) _____ Date _____

The applicant attests that this form is accurately completed and all required materials are submitted:

Name of applicant _____ Relationship to property Developer

Authorizing signature of property owner _____ Date _____

APPLICATION FILING FEES

Please consult the schedule below for the appropriate fee for your request. Refer to Section 28.206, MGO for further detail. Land Use Applications containing a combination of Rezoning, Demolition Permit and/or Conditional Use approvals shall, after computation of each category, be charged the highest individual fee. Fractions of an acre are rounded up to the next whole acre. Please note that a separate fee schedule applies for subdivision/CSM applications and for Urban Design Commission review. Make checks payable to: City of Madison Treasurer. Credit cards may be used for application fees of less than $1,000.

Request	Filing Fee
Zoning Map Amendment, except for Planned Developments	$950 plus $100 for each acre of land in excess of one acre or fraction thereof, included in the proposed rezoning, up to a maximum of 20 acres or $2,850
Zoning Map Amendment for a Planned Development: General Development Plan or Specific Implementation Plan (including Major Alterations)	$1,500 plus $200 for each acre of land in excess of one acre or fraction thereof, included in the proposed rezoning, up to a maximum of twenty acres or $5,300
Alteration to a Planned Development General Plan or Specific Implementation Plan that requires Plan Commission approval	$500
All Conditional Uses (including Major Alterations to approved Conditional Uses), except those noted below	$600 plus $100 for each acre of land in excess of one acre or fraction thereof, up to a maximum of 20 acres or $2,500
Conditional Use (including Major Alterations to Approved Conditional Uses) for a: • multi-family complex • school • new construction or addition to existing building(s) that results in total square footage greater than 50,000 square feet in floor area and 25,000 or more square feet of floor area designed or intended for retail, hotel or motel use • new construction of a building, addition to any existing building or major alteration to the exterior face of a building in the Downtown Core (DC) or Urban Mixed-Use (UMX) District	$950 plus one $100 for each acre of land in excess of one acre or fraction thereof, up to a maximum of 20 acres or $2,850
Conditional Use application for the following conditional uses: • Day care centers [includes adult day care] • Adaptive reuse of former public school or municipal buildings • Accessory greenhouses and swimming pool roofs or domes which infringe on required usable open space • Community service organizations; day treatment facilities • Development of parcels adjacent to landmarks, landmark sites or historic districts designated by the Landmarks Commission, provided that the use of the parcel is either a permitted or conditional use allowed in the zoning district in which the property is located	No fee
Conditional Use application filed by any nonprofit, nongovernmental organization registered with the Department of Financial Institutions or by any neighborhood organization registered with the City Department of Planning and Community and Economic Development. When a question arises as to whether an organization is nonprofit, nongovernmental the City Attorney shall investigate and make a determination.	No fee
Demolition or Removal Permit	$600, unless permit is issued in conjunction with a conditional use approval, in which case the fee for that application applies
Site Plan Review fee	$100 plus $50 for each acre of land in excess of one acre, or fraction thereof, up to a maximum of 5 acres or $300. Review of previously rejected site plan is 50% of original fee. $50 maximum for governmental entities, schools, and non-profit, non-governmental organizations.

EXHIBIT B

Elizabeth Adler

From: Elizabeth Adler
Sent: Wednesday, April 7, 2021 10:18 AM
To: Furman, Keith
Subject: Element Collective Conditional Use Applications

Alder Furman, first off – congratulations on the results of the election! We are looking forward to continuing to work with you on Element Collective as it comes to life.

I am writing to notify you that we are continuing to make great progress with building designs and intend to submit for Conditional Use Approvals for the Multifamily and Parking Podium as well as the Food Hall and Climbing Gym.

Thank you,
Elizabeth

Elizabeth Adler Development Associate

330 East Kilbourn Avenue
Suite 600 South
Milwaukee, Wisconsin 53202
o: 414 . 270 . 2608
c: 262 . 707 . 6403

MANDEL GROUP
mandelgroup.com

Exhibit C

Rezoned Parcel Legal Descriptions

Traditional Shopping Street - TSS

Part of Lot 1 CSM 10343, part of Lot 2 CSM 10343, part of Lot 38 of University Research Park University of Wisconsin-Madison Second Addition, and the planned vacation of part of Mineral Point Road right-of-way; being part of the NE1/4 of the NW1/4 of Section 30, Township 7 North, Range 9 East, City of Madison, Dane County, Wisconsin, containing 109,057 square feet (2.504 acres) described as follows:

COMMENCING at the North 1/4 Corner of said Section 30; thence along the East line of the Northwest 1/4 of said Section 30, S00°08'58"E, 60.05 feet to the South right-of-way line of Mineral Point Road; thence along said South right-of-way line, S89°30'00"W, 270.01 feet to the POINT OF BEGINNING; thence S00°00'00"W, 278.30 feet; thence 14.90 feet along the arc of a curve to the left with a radius of 175.00 feet and chord of S50°26'23"W, 14.90 feet; thence S48°00'00"W, 374.99 feet to the North right-of-way line of Charmany Way; thence along said North right-of-way line, 68.94 feet along the arc of a curve to the left with a radius of 410.00 feet and chord of N45°27'59" W, 68.86 feet; thence N35°17'55"E, 135.48 feet; thence N00°08'50"E, 377.57 feet; thence N89°30'00"E, 260.00 feet to the POINT OF BEGINNING.

Traditional Employment - TE

Part of Lot 1 CSM 10343 and part of Lot 2 CSM 10343, being part of the NE1/4 of the NW1/4 and part of the NW1/4 of the NE1/4 of Section 30, Township 7 North, Range 9 East, City of Madison, Dane County, Wisconsin, containing 209,483 square feet (4.809 acres) described as follows:

COMMENCING at the North 1/4 Corner of said Section 30; thence along the East line of the Northwest 1/4 of said Section 30, S00°08'58"E, 60.05 feet to the South right-of-way line of Mineral Point Road being the POINT OF BEGINNING; thence along said South right-of-way line of Mineral Point Road, N89°38'28"E, 287.97 feet; thence continuing along said South right-of-way line of Mineral Point Road, 35.56 feet along the arc of a curve to the right with a radius of 25.00 feet and chord of S49°36'32"E, 32.64 feet to the West right-of-way line of South Whitney Way; thence along said West right-of-way line of South Whitney Way, S08°51'32"E, 228.58 feet; thence N90°00'00"W, 354.06 feet; thence S00°00'00"W, 148.21 feet; thence 42.83 feet along the arc of a curve to the right with a radius of 301.00 feet and chord of S04°04'35"W, 42.79 feet; thence 118.66 feet along the arc of a curve to the left with a radius of 255.00 feet and chord of N76°18'21"W, 117.59 feet; thence 67.53 feet along the arc of a curve to the left with a radius of 155.00 feet and chord of S77°52'56"W, 67.00 feet; thence S65°24'04"W, 14.70 feet; thence 102.51 feet along the arc of a curve to the right with a radius of 235.00 feet and chord of S77°53'50"W, 101.70 feet; thence N89°36'24"W, 155.94 feet; thence N48°00'00"E, 236.94 feet; thence 14.90 feet along the arc of a curve to the right with a radius of 175.00 feet and chord of N50°26'23"E, 14.90 feet; thence N00°00'00"E, 278.30 feet to said South right-of-way line of Mineral Point Road; thence N89°30'00"E, 270.01 feet to the POINT OF BEGINNING.

EXHIBIT D

ELEMENT DISTRICT

ALL OF LOT 1 CSM 10343, ALL OF LOT 2 CSM 10343, ALL OF LOT 3 CSM 10343, AND PARTS OF LOTS 38, 39, AND 40 OF UNIVERSITY RESEARCH PARK UNIVERSITY OF WISCONSIN-MADISON SECOND ADDITION, BEING PART OF THE NE1/4 OF THE NW1/4 AND PART OF THE NW1/4 OF THE NE1/4 OF SECTION 30, TOWNSHIP 7 NORTH, RANGE 9 EAST, CITY OF MADISON, DANE COUNTY, WISCONSIN.

CURVE TABLE

CURVE NO.	ARC LENGTH	CURVE RADIUS	CENTRAL ANGLE	CHORD BEARING	CHORD LENGTH	TANGENT IN	TANGENT OUT
C1	35.56'	25.00'	81°30'00"	N49°36'32"W	32.64'	N8°51'32"W	S89°38'28"W
C2	640.35'	1440.00'	25°28'44"	N3°52'49"E	635.09'	N16°37'11"E	N8°51'32"W
C3	368.20'	410.00'	51°27'14"	N24°33'24"W	355.95'	N1°10'12"E	N50°17'01"W
C4	23.69'	15.00'	90°30'00"	N45°15'00"W	21.31'	N0°00'00"E	S89°30'00"W
C5	23.56'	15.00'	90°00'00"	N45°00'00"E	21.21'	N90°00'00"E	N0°00'00"E
C6	151.74'	207.00'	42°00'00"	N69°00'00"E	148.36'	N48°00'00"E	N90°00'00"E
C7	22.24'	15.00'	84°57'37"	S89°31'11"E	20.26'	S47°02'23"E	N48°00'00"E
C8	25.88'	15.00'	98°51'32"	N40°34'14"E	22.79'	N90°00'00"E	N8°51'32"W
C9	23.56'	15.00'	90°00'00"	S45°00'00"E	21.21'	S0°00'00"E	N90°00'00"E
C10	23.47'	15.00'	89°38'28"	S44°49'14"W	21.15'	S89°38'28"W	S0°00'00"E
C11	22.70'	15.00'	86°43'34"	S34°21'48"E	20.60'	S8°59'59"W	S77°43'34"E
C12	53.09'	338.00'	9°00'00"	S4°30'00"W	53.04'	S0°00'00"E	S9°00'00"W
C13	23.56'	15.00'	90°00'00"	S45°00'00"W	21.21'	N90°00'00"W	S0°00'00"E
C14	21.24'	15.00'	81°08'29"	N49°25'46"W	19.51'	N8°51'31"W	N90°00'00"W
C15	21.34'	15.00'	81°31'15"	S7°14'22"W	19.59'	S48°00'00"W	S33°31'15"E
C16	100.43'	137.00'	42°00'00"	S69°00'00"W	98.19'	N90°00'00"W	S48°00'00"W
C17	23.56'	15.00'	90°00'00"	N45°00'00"W	21.21'	N0°00'00"E	N90°00'00"W
C18	42.25'	269.00'	9°00'00"	N4°30'00"E	42.21'	N9°00'00"E	N0°00'00"E
C19	24.42'	15.00'	93°16'26"	N55°38'13"E	21.81'	S77°43'34"E	N9°00'00"E
C20	96.74'	410.00'	13°31'08"	N40°16'49"W	96.51'	N33°31'15"W	N47°02'23"W
C21	23.22'	410.00'	3°14'39"	N48°39'42"W	23.21'	N47°02'23"W	N50°17'02"W
C28	85.34'	255.00'	19°10'27"	N80°02'55"W	84.94'	N70°27'41"W	N89°38'08"W
C29	67.53'	155.00'	24°57'48"	S77°52'58"W	67.00'	N89°38'08"W	S65°24'04"W
C30	102.51'	235.00'	24°59'32"	N77°53'50"E	101.70'	S89°36'24"E	N65°24'04"E
C33	113.19'	259.50'	24°59'32"	N77°53'50"E	112.30'	S89°36'24"E	N65°24'04"E
C34	139.37'	140.21'	56°57'20"	S86°16'04"E	133.71'	N65°15'15"E	S57°47'24"E
C38	16.81'	140.21'	6°52'12"	S13°19'21"E	16.80'	S16°45'26"E	S9°53'15"E
C47	29.58'	269.00'	6°18'05"	N3°09'02"E	29.57'	N6°18'05"E	N0°00'00"E
C48	12.67'	269.00'	2°41'55"	N7°39'02"E	12.67'	N9°00'00"E	N6°18'05"E

0 60' 120'

1"= 60'

BEARINGS REFERENCED TO THE EAST LINE OF THE NORTWEST QUARTER OF SECTION 30, T9N, R7E WISCONSIN COUNTY COORDINATE SYSTEM (DANE ZONE) BEARING S00°08'58"E

LINE TABLE

LINE#	DIRECTION	LENGTH
L1	S3°01'03"W	31.00'
L2	S44°38'28"W	48.91'
L3	S89°38'28"W	51.13'
L4	N44°53'19"W	91.66'
L5	N45°21'32"W	69.42'
L6	N89°30'00"E	22.99'
L7	N0°08'58"W	438.66'
L8	N6°14'47"E	118.95'
L9	N0°08'58"W	352.42'
L10	S74°51'32"E	43.34'
L11	S89°36'24"E	124.15'
L12	N65°24'04"E	14.71'
L15	S15°42'31"W	19.53'
L16	N74°17'29"W	15.00'
L17	N15°42'31"E	92.43'

SURVEYORS CERTIFICATE

I, William F. Kottler, Professional Land Surveyor S-2348 do hereby certify that in full compliance with the provisions of Chapter 236 of the Wisconsin State Statutes and the Subdivision Regulations of the City of Madison, and under the direction of the owner(s), I have surveyed, divided and mapped ELEMENT DISTRICT and that such plat correctly represents all the exterior boundaries and the subdivision of the land surveyed; and that this land is located in All of Lot 1 CSM 10343, all of Lot 2 CSM 10343, all of Lot 3 CSM 10343, and parts of Lots 38, 39, and 40 of University Research Park University of Wisconsin-Madison Second Addition, being part of the NE1/4 of the NW1/4 and part of the NW1/4 of the NE1/4 of Section 30, Township 7 North, Range 9 East, City of Madison, Dane County, Wisconsin, containing 791,985 square feet (18.181 acres) described as follows:

COMMENCING at the North 1/4 Corner of said Section 30; thence along the East line of the Northwest 1/4 of said Section 30, S00°08'58"E, 60.05 feet to the POINT OF BEGINNING; thence along the South right-of-way line of Mineral Point Road, N89°38'28"E, 287.96 feet; thence continuing along said South right-of-way line, 35.56 feet along the arc of a curve to the right with a radius of 25.00 feet and chord of S49°36'32"E, 32.64 feet to the West right-of-way line of Whitney Way; thence along said West right-of-way line, S08°51'32"E, 337.96 feet; thence continuing along said West right-of-way line, 640.35 feet along the arc of a curve to the right with a radius of 1440.00 feet and chord of S03°52'49"W, 635.09 feet to the North right-of-way line of Endeavor Lane; thence along said North right-of-way line, N77°43'34"W, 801.52 feet; to the northeasterly right-of-way line of Charmany Drive; thence along said northeasterly right-of-way line, 368.20 feet along the arc of a curve to the left with a radius of 410.00 feet and chord of N24°33'24"W, 355.95 feet to the West line of Lot 1 CSM 10343; thence along said West line, N35°17'55"E, 135.48 feet; thence continuing along said West line, N00°08'50"E, 377.57 feet to the South right-of-way line of Mineral Point Road; thence along said South right-of-way line, N89°30'00"E, 530.01 feet to the POINT OF BEGINNING.

Dated this _____ day of _____, _____.

_____
William F. Kottler, Professional Land Surveyor, S-2348

DRAFT

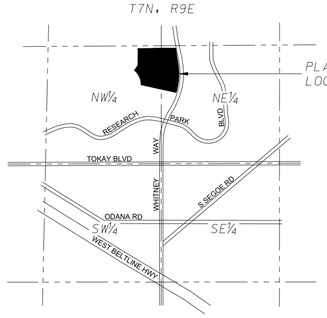
There are no objections to this plat with respect to Secs. 236.15, 236.16, 236.20 and 236.21(1) and (2), Wis. Stats. as provided by s. 236.12, Wis. Stats.

Certified _____, 20____

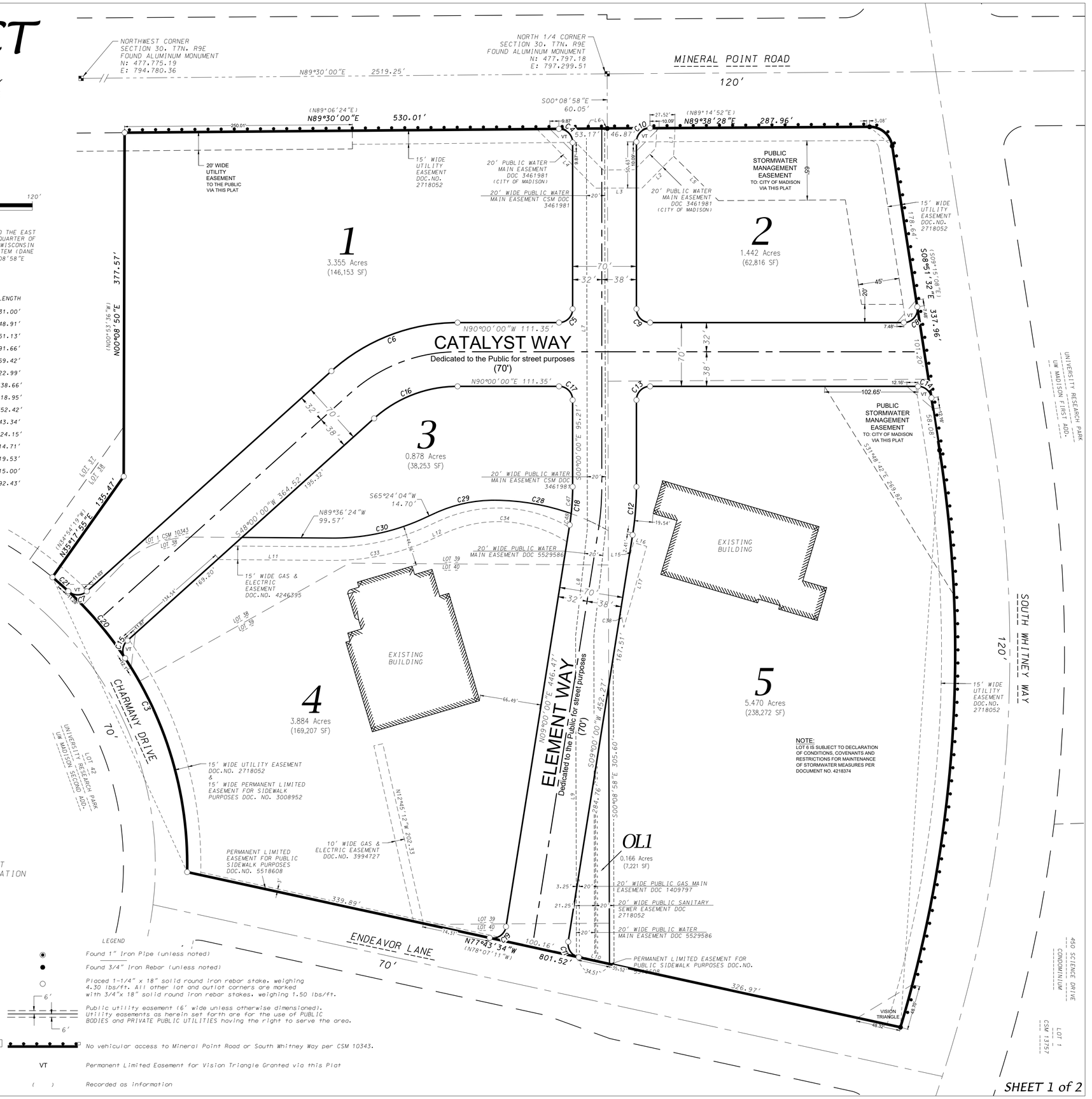
Department of Administration

D'ONOFRIO KOTTKE AND ASSOCIATES, INC.
7530 Westward Way, Madison, WI 53717
Phone: 608.833.7530 • Fax: 608.833.1089
YOUR NATURAL RESOURCE FOR LAND DEVELOPMENT
FN:20-05-113

SECTION 30
T7N, R9E



LOCATION MAP
NOT TO SCALE



LEGEND

- Found 1" Iron Pipe (unless noted)
- Found 3/4" Iron Rebar (unless noted)
- Placed 1-1/4" x 18" solid round iron rebar stake, weighing 4.30 lbs/ft. All other lot and outlot corners are marked with 3/4"x 18" solid round iron rebar stakes, weighing 1.50 lbs/ft.
- Public utility easement (6' wide unless otherwise dimensioned). Utility easements as herein set forth are for the use of PUBLIC BODIES and PRIVATE PUBLIC UTILITIES having the right to serve the area.
- No vehicular access to Mineral Point Road or South Whitney Way per CSM 10343.
- VT — Permanent Limited Easement for Vision Triangle Granted via this Plat
- ( ) — Recorded as information

SHEET 1 of 2

File: U:\User\2005113\Drawings\2005113 Final Plat.dwg 1 of 2 Plotted: Apr 02, 2021 - 10:54am

ELEMENT DISTRICT

ALL OF LOT 1 CSM 10343, ALL OF LOT 2 CSM 10343, ALL OF LOT 3 CSM 10343, AND PARTS OF LOTS 38, 39, AND 40 OF UNIVERSITY RESEARCH PARK UNIVERSITY OF WISCONSIN-MADISON SECOND ADDITION, BEING PART OF THE NE1/4 OF THE NW1/4 AND PART OF THE NW1/4 OF THE NE1/4 OF SECTION 30, TOWNSHIP 7 NORTH, RANGE 9 EAST, CITY OF MADISON, DANE COUNTY, WISCONSIN.

CORPORATE OWNER'S CERTIFICATE

UNIVERSITY RESEARCH PARK, INCORPORATED, a Wisconsin non-stock corporation duly organized and existing under and by virtue of the laws of the State of Wisconsin, as owner, does hereby certify that said non-stock corporation caused the land described on this plat to be surveyed, divided, mapped, and dedicated as represented on this map.

UNIVERSITY RESEARCH PARK, INCORPORATED does further certify that this plat is required by S236.10 or S236.12 Wisconsin Statutes to be submitted to the following agencies for approval or objection:

Department of Administration
Common Council, City of MADISON
Dane County Zoning and Land Regulation Committee

IN WITNESS WHEREOF, the said UNIVERSITY RESEARCH PARK, INCORPORATED has caused these presents to be signed by its officer(s) of said corporation

at_____, Wisconsin this_____day of_____, 20_____.

UNIVERSITY RESEARCH PARK, INCORPORATED

_____ _____
signature signature

_____ _____
print name print name

_____ _____
title title

STATE OF WISCONSIN)
COUNTY OF DANE)S.S.

Personally came before me this _____ day of _____ , 20_____, the above named corporate officer(s) to me known to be the person(s) who executed the foregoing instrument and acknowledged the same.

_____.
Notary Public, Dane County, Wisconsin

My commission expires:_____.

CORPORATE OWNER'S CERTIFICATE

BOARD OF REGENTS OF THE UNIVERSITY OF WISCONSIN SYSTEM, a Wisconsin corporation duly organized and existing under and by virtue of the laws of the State of Wisconsin, as owner, does hereby certify that said corporation caused the land described on this plat to be surveyed, divided, mapped, and dedicated as represented on this map.

BOARD OF REGENTS OF THE UNIVERSITY OF WISCONSIN SYSTEM does further certify that this plat is required by S236.10 or S236.12 Wisconsin Statutes to be submitted to the following agencies for approval or objection:

Department of Administration
Common Council, City of MADISON
Dane County Zoning and Land Regulation Committee

IN WITNESS WHEREOF, the said BOARD OF REGENTS OF THE UNIVERSITY OF WISCONSIN SYSTEM has caused these presents to be signed by its officer(s) of said corporation

at_____, Wisconsin this_____day of_____, 20_____.

BOARD OF REGENTS OF THE UNIVERSITY OF WISCONSIN SYSTEM

_____ _____
signature signature

_____ _____
print name print name

_____ _____
title title

STATE OF WISCONSIN)
COUNTY OF DANE)S.S.

Personally came before me this _____ day of _____ , 20_____, the above named corporate officer(s) to me known to be the person(s) who executed the foregoing instrument and acknowledged the same.

_____.
Notary Public, Dane County, Wisconsin

My commission expires:_____.

D'ONOFRIO KOTTKE AND ASSOCIATES, INC.
7530 Westward Way, Madison, WI 53717
Phone: 608.833.7530 • Fax: 608.833.1089
YOUR NATURAL RESOURCE FOR LAND DEVELOPMENT

FN:20-05-113

CONSENT OF CORPORATE MORTGAGEE

FIRST BUSINESS BANK, a corporation duly organized and existing under and by virtue of the laws of the State of Wisconsin, mortgagee of the above described land, does hereby consent to the surveying, dividing, mapping and dedication of the land described on this plat, and does hereby consent to the above Owner's Certificate(s).

IN WITNESS WHEREOF, the said FIRST BUSINESS BANK has caused these presents to be signed by its officer(s) of said corporation

at_____, Wisconsin this_____day of_____, 20_____.

FIRST BUSINESS BANK

_____ _____
signature signature

_____ _____
print name print name

_____ _____
title title

STATE OF WISCONSIN)
COUNTY OF DANE)S.S.

Personally came before me this _____ day of _____ , 20_____, the above named corporate officer(s), to me known to be the person(s) who executed the foregoing instrument, and to me known to be such officer(s) of said corporation, and acknowledged that they executed the foregoing instrument as such officer(s) as the deed of said corporation, by its authority.

_____.
Notary Public, Dane County, Wisconsin

My commission expires:_____.

CONSENT OF LEASEHOLDER

WISCONSIN ENERGY CONSERVATION CORPORATION, a corporation duly organized and existing under and by virtue of the laws of the State of Wisconsin, leaseholder on the above described land, does hereby consent to the surveying, dividing, mapping and dedication of the land described on this plat, and does hereby consent to the above Owner's Certificate.

IN WITNESS WHEREOF, the said WISCONSIN ENERGY CONSERVATION CORPORATION has caused these presents to be signed by its officer(s) of said corporation

at_____, Wisconsin this_____day of_____, 20_____.

WISCONSIN ENERGY CONSERVATION CORPORATION

_____ _____
signature signature

_____ _____
print name print name

_____ _____
title title

STATE OF WISCONSIN)
COUNTY OF DANE)S.S.

Personally came before me this _____ day of _____ , 20_____, the above named corporate officer(s), to me known to be the person(s) who executed the foregoing instrument, and to me known to be such officer(s) of said corporation, and acknowledged that they executed the foregoing instrument as such officer(s) as the deed of said corporation, by its authority.

_____.
Notary Public, Dane County, Wisconsin

My commission expires:_____.

NOTES

All lots within said plat/certified survey shall be subject to public easements for drainage purposes which shall be a minimum of six feet in width measured from the property line to the interior of each lot except that the easements shall be 12 feet in width on the perimeter of the plat/certified survey. For purposes of two (2) or more lots combined for a single development site, or where two (2) or more lots have a shared driveway agreement, the public easement for drainage purposes shall be a minimum of six (6) feet in width and shall be measured only from the exterior property lines of the combined lots that create a single development site, or have a shared driveway agreement, except that the easement shall be twelve (12) feet in width along the perimeter of the plat/certified survey. Easements shall not be required on property lines shared with greenways or public streets. No buildings, driveways, or retaining walls shall be placed in any easement for drainage purposes. Fences may be placed in the easement only if they do not impede the anticipated flow of water. In the event of a City of Madison Plan Commission and/or Common Council approved redivision of a previously subdivided property, the underlying public easements for drainage purposes are released and replaced by those required and created by the current approved subdivision.

MADISON PLAN COMMISSION CERTIFICATE

Approved for recording per the Secretary of the City of Madison Plan Commission

By:_____ Date:_____.
Matt Wachter - Secretary of the Plan Commission

MADISON COMMON COUNCIL CERTIFICATE

Resolved that the plat of ELEMENT DISTRICT located in the City of MADISON, was hereby approved by

Enactment Number_____,

File I.D. Number_____,

adopted this_____, 2020, and that said Enactment further provided for the acceptance of those lands dedicated and rights conveyed by said plat to the City of Madison for public use.

Dated this_____day of_____, 20_____.

_____
Maribeth Witzel-Behl, City Clerk, City of Madison, Dane County, Wisconsin

CITY OF MADISON TREASURER'S CERTIFICATE

I, Craig Franklin, being the duly appointed, qualified, and acting Treasurer of the City of MADISON, Dane County, Wisconsin, do hereby certify that, in accordance with the records in my office, there are no unpaid taxes or unpaid special assessments on any of the lands included in the plat of ELEMENT DISTRICT

as of this_____day of_____, 20_____.

_____
Craig Franklin, City Treasurer, City of Madison, Dane County, Wisconsin

DANE COUNTY TREASURER'S CERTIFICATE

I, Adam Gallagher, being the duly elected, qualified, and acting Treasurer of Dane County, Wisconsin, do hereby certify that in accordance with the records in my office, there are no unpaid taxes or unpaid special assessments on any of the lands included in the plat of ELEMENT DISTRICT

as of this_____day of_____, 20_____.

_____
Adam Gallagher, Treasurer, Dane County, Wisconsin

REGISTER OF DEEDS CERTIFICATE

Received for recording this _____ day of

, 20_____ at _____.M.

and recorded in Volume _____ of Plats

on Pages _____ as Document Number_____.

_____.
Kristi Chlebowski, Dane County Register of Deeds

DRAFT

There are no objections to this plat with respect to Sees. 236.15, 236.16, 236.20 and 236.21(1) and (2), Wis. Stats. as provided by s. 236.12, Wis. Stats.

Certified _____, 20____

Department of Administration

File: U:\User\2005113\Drawings\2005113 Final Plat.dwg 2 of 2 Plotted: Apr 02, 2021 - 10:54am

EXHIBIT E

Vehicular Code Requirements - Element District

Element District

Land Use Summary - Code Required Parking

		Code Req'd Per	Total Req'd	Max Capacity
Element Collective				
Multifamily (Units)	179	1	179	
Retail	3,397	400	8	
Café	5,002	15%	24	157
Element Lab				
Lab	120,000	400	300	
Total Required:			511	

Parking Stalls Provided

Element Collective Parking Garage

	Standard	ADA	Compact	
P1	139	4	21	
P2	150	6	8	
	289	10	29	328

Element Lab Parking Garage (Dedicated for Lab Only)

P1	52	2	0	
P2	69	2	0	
P3	20	1	0	
	141	5	0	146
Total Provided Stalls	430	15	29	474

Element Collective Parking Garge (P1-P2)

Shared Parking Analysis

	Weekdays			Weekends		
Land Use	2:00 a.m.-7:00 a.m.	7:00 a.m-6:00pm	6:00 p.m.-2:00 a.m	2:00 a.m.-7:00 a.m.	7:00 a.m-6:00pm	6:00 p.m.-2:00 a.m
Residential	100%	60%	100%	100%	75%	90%
179	179	107	179	179	134	161
Retail Sales	0%	90%	80%	0%	100%	60%
8	0	8	7	0	8	5
Restaurant	10%	70%	100%	20%	70%	100%
24	2	16	24	5	16	24
Office (Lab)	5%	100%	5%	0%	10%	0%
154	8	154	8	0	15	0
Stalls Req'd	189	286	217	184	175	190
Available Stalls	139	42	111	144	153	138

City of Madison Shared Parking Calculations

Table 28I-5. Shared Parking Calculations.

General Land Use Classification	Weekdays			Weekends		
	2:00 a.m. — 7:00 a.m.	7:00 a.m. — 6:00 p.m.	6:00 p.m. — 2:00 a.m.	2:00 a.m. — 7:00 a.m.	7:00 a.m. — 6:00 p.m.	6:00 p.m. — 2:00 a.m.
Office/Warehouse/Industrial	5%	100%	5%	0%	10%	0%
Retail sales and services	0%	90%	80%	0%	100%	60%
Restaurant (not 24 hour)	10%	70%	100%	20%	70%	100%
Residential	100%	60%	100%	100%	75%	90%
Theater	0%	40%	90%	0%	80%	100%
Hotel: guest rooms (calculate conference and restaurant facilities separately)	100%	55%	100%	100%	55%	100%
Conference/Convention Facilities	0%	100%	100%	0%	100%	100%
Place of Worship	0%	25%	50%	0%	100%	50%
School, Grades K-12	0%	100%	25%	0%	30%	10%
Community Center, Library, Museum	0%	100%	80%	0%	100%	80%

EXHIBIT F

CITY OF MADISON
LANDSCAPE WORKSHEET

Section 28.142 Madison General Ordinance

Project Location / Address 510 CHARMANY DRIVE, SUITE 250 MADISON, WI 53719

Name of Project Element Collective

Owner / Contact Mandel Group

Contact Phone _____ Contact Email _____

**** Landscape plans for zoning lots greater than ten thousand (10,000) square feet in size MUST be prepared by a registered landscape architect. ****

Applicability

The following standards apply to all exterior construction and development activity, including the expansion of existing buildings, structures and parking lots, except the construction of detached single-family and two-family dwellings and their accessory structures. The entire development site must be brought up to compliance with this section unless **all** of the following conditions apply, in which case only the affected areas need to be brought up to compliance:

(a) The area of site disturbance is less than ten percent (10%) of the entire development site during any ten-(10) year period.

(b) Gross floor area is only increased by ten percent (10%) during any ten-(10) year period.

(c) No demolition of a principal building is involved.

(d) Any displaced landscaping elements must be replaced on the site and shown on a revised landscaping plan.

Landscape Calculations and Distribution

Required landscaped areas shall be calculated based upon the total developed area of the property. Developed area is defined as that area within a single contiguous boundary which is made up of structures, parking, driveways and docking/loading facilities, but excluding the area of any building footprint at grade, land designated for open space uses such as athletic fields, and undeveloped land area on the same zoning lot. There are three methods for calculating landscape points depending on the size of the lot and Zoning District.

(a) For all lots except those described in (b) and (c) below, five (5) landscape points shall be provided for each three hundred (300) square feet of developed area.

Total square footage of developed area 146,153

Total landscape points required 2,436

(b) **For lots larger than five (5) acres**, points shall be provided at five (5) points per three hundred (300) square feet for the first five (5) developed acres, and one (1) point per one hundred (100) square feet for all additional acres.

Total square footage of developed area _____

Five (5) acres = 217,800 square feet

First five (5) developed acres = 3,630 points

Remainder of developed area _____

Total landscape points required _____

(c) **For the Industrial – Limited (IL) and Industrial – General (IG) districts**, one (1) point shall be provided per one hundred (100) square feet of developed area.

Total square footage of developed area _____

Total landscape points required _____

Tabulation of Points and Credits

Use the table to indicate the quantity and points for all existing and proposed landscape elements.

Plant Type/ Element	Minimum Size at Installation	Points	Credits/ Existing Landscaping		New/ Proposed Landscaping	
			Quantity	Points Achieved	Quantity	Points Achieved
Overstory deciduous tree	2½ inch caliper measured diameter at breast height (dbh)	35	10	350	55	1925
Tall evergreen tree (i.e. pine, spruce)	5-6 feet tall	35				
Ornamental tree	1 1/2 inch caliper	15				
Upright evergreen shrub (i.e. arborvitae)	3-4 feet tall	10				
Shrub, deciduous	#3 gallon container size, Min. 12”-24”	3			309	927
Shrub, evergreen	#3 gallon container size, Min. 12”-24”	4			20	80
Ornamental grasses/ perennials	#1 gallon container size, Min. 8”-18”	2			2626	5252
Ornamental/ decorative fencing or wall	n/a	4 per 10 lineal ft.				
Existing significant specimen tree	Minimum size: 2 ½ inch caliper dbh. *Trees must be within developed area and cannot comprise more than 30% of total required points.	14 per caliper inch dbh. Maximum points per tree: 200				
Landscape furniture for public seating and/or transit connections	* Furniture must be within developed area, publically accessible, and cannot comprise more than 5% of total required points.	5 points per “seat”			32	160
Sub Totals			10	350	3,042	8,344

Total Number of Points Provided 8,694

* As determined by ANSI, ANLA- American standards for nursery stock. For each size, minimum plant sizes shall conform to the specifications as stated in the current American Standard for Nursery Stock.

Landscaping shall be distributed throughout the property along street frontages, within parking lot interiors, as foundation plantings, or as general site landscaping. The total number of landscape points provided shall be distributed on the property as follows.

Total Developed Area

Required landscaped areas shall be calculated based upon the total developed area of the property. Developed area is defined as that area within a single contiguous boundary which is made up of structures, parking, driveways and docking/loading facilities, but excluding the area of any building footprint at grade, land designated for open space uses such as athletic fields, and undeveloped land area on the same zoning lot.

Development Frontage Landscaping

Landscaping and/or ornamental fencing shall be provided between buildings or parking areas and the adjacent street(s), except where buildings are placed at the sidewalk. Landscape material shall include a mix of plant materials.

Interior Parking Lot Landscaping

The purpose of interior parking lot landscaping is to improve the appearance of parking lots, provide shade, and improve stormwater infiltration. **All parking lots with twenty (20) or more parking spaces** shall be landscaped in accordance with the interior parking lot standards.

Foundation Plantings

Foundation plantings shall be installed along building facades, except where building facades directly abut the sidewalk, plaza, or other hardscape features. Foundation plantings shall consist primarily of shrubs, perennials, and native grasses.

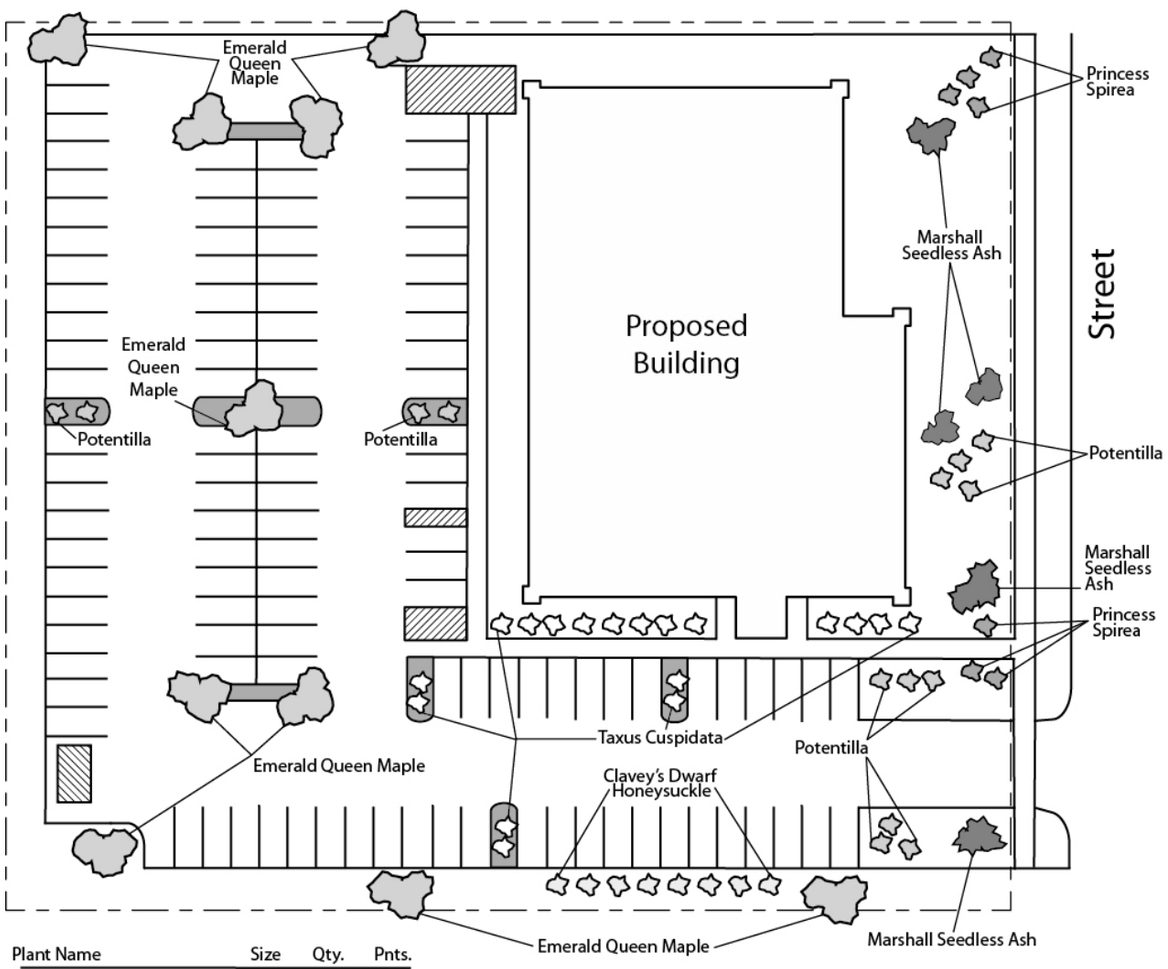
Screening Along District Boundaries

Screening shall be provided along side and rear property boundaries between commercial, mixed use or industrial districts and residential districts.

Screening of Other Site Elements

The following site elements shall be screened in compatibility with the design elements, materials and colors used elsewhere on the site: refuse disposal areas, outdoor storage areas, loading areas, and mechanical equipment.

Example Landscape Plan



Plant Name	Size	Qty.	Pnts.
Emerald Queen Maple	2-2.5"	9	-
Marshall Seedless Ash	2-2.5"	4	450
Clavey's Dwarf Honelysuckle	1 Gal	8	24
Princess Spirea	1 Gal	7	21
Potentilla	1 Gal	10	30
Taxus Cuspidata	2 Gal	12	60
		TOTAL	585

Call City Zoning, 266-4551, with your questions about this type of plan

LANDSCAPE PLAN AND LANDSCAPE WORKSHEET INSTRUCTIONS

Refer to Zoning Code Section 28.142 LANDSCAPING AND SCREENING REQUIREMENTS for the complete requirements for preparing and submitting a Landscape Plan and Landscape Worksheet.

Applicability.

The following standards apply to all exterior construction and development activity, including the expansion of existing buildings, structures and parking lots, except the construction of detached single-family and two-family dwellings and their accessory structures. The entire development site must be brought up to compliance with this section unless all of the following conditions apply, in which case only the affected areas need to be brought up to compliance:

(a) The area of site disturbance is less than ten percent (10%) of the entire development site during any ten-(10) year period.

(b) Gross floor area is only increased by ten percent (10%) during any ten-(10) year period.

(c) No demolition of a principal building is involved.

(d) Any displaced landscaping elements must be replaced on the site and shown on a revised landscaping plan.

Landscape Plan and Design Standards.

Landscape plans shall be submitted as a component of a site plan, where required, or as a component of applications for other actions, including zoning permits, where applicable. Landscape plans for zoning lots greater than ten thousand (10,000) square feet in size must be prepared by a registered landscape architect.

(a) Elements of the landscape plan shall include the following:

1. Plant list including common and Latin names, size and root condition (i.e. container or ball & burlap).
2. Site amenities, including bike racks, benches, trash receptacles, etc.
3. Storage areas including trash and loading.
4. Lighting (landscape, pedestrian or parking area).
5. Irrigation.
6. Hard surface materials.
7. Labeling of mulching, edging and curbing.
8. Areas of seeding or sodding.
9. Areas to remain undisturbed and limits of land disturbance.
10. Plants shall be depicted at their size at sixty percent (60%) of growth.
11. Existing trees eight (8) inches or more in diameter.
12. Site grading plan, including stormwater management, if applicable.

(b) Plant Selection. Plant materials provided in conformance with the provisions of this section shall be nursery quality and tolerant of individual site microclimates.

(c) Mulch shall consist of shredded bark, chipped wood or other organic material installed at a minimum depth of two (2) inches.

Landscape Calculations and Distribution.

Required landscaped areas shall be calculated based upon the total developed area of the property. Developed area, for the purpose of this requirement, is defined as that area within a single contiguous boundary which is made up of structures, parking driveways and docking/loading facilities, but **excluding** the area of any building footprint at grade, land designated for open space uses such as athletic fields, and undeveloped land area on the same zoning lot.

(a) Landscaping shall be distributed throughout the property along street frontages, within parking lot interiors, and as foundation plantings, or as general site landscaping.

(b) Planting beds or planted areas must have at least seventy-five percent (75%) vegetative cover.

(c) Canopy tree diversity requirements for new trees:

1. If the development site has fewer than 5 canopy trees, no tree diversity is required.
2. If the development site has between 5 and 50 canopy trees, no single species may comprise more than 33% of trees.
3. If the development site has more than 50 canopy trees, no single species may comprise more than 20% of trees.

Development Frontage Landscaping.

Landscaping and/or ornamental fencing shall be provided between buildings or parking areas and the adjacent street(s), except where buildings are placed at the sidewalk. Landscape material shall include a mix of plant material meeting the following minimum requirements:

(a) One (1) overstory deciduous tree and five (5) shrubs shall be planted for each thirty (30) lineal feet of lot frontage. Two (2) ornamental trees or two (2) evergreen trees may be used in place of one (1) overstory deciduous tree.

(b) In cases where building facades directly abut the sidewalk, required frontage landscaping shall be deducted from the required point total.

(c) In cases where development frontage landscaping cannot be provided due to site constraints, the zoning administrator may waive the requirement or substitute alternative screening methods for the required landscaping.

(d) Fencing shall be a minimum of three (3) feet in height, and shall be constructed of metal, masonry, stone or equivalent material. Chain link or temporary fencing is prohibited.

Interior Parking Lot Landscaping.

The purpose of interior parking lot landscaping is to improve the appearance of parking lots, provide shade, and improve stormwater infiltration. **All parking lots with twenty (20) or more parking spaces** shall be landscaped in accordance with the following interior parking lot standards.

(a) For new development on sites previously undeveloped or where all improvements have been removed, a minimum of eight percent (8%) of the asphalt or concrete area of the parking lot shall be devoted to interior planting islands, peninsulas, or landscaped strips. For changes to a developed site, a minimum of five percent (5%) of the asphalt or concrete area shall be interior planting islands, peninsulas, or landscaped strips. A planting island shall be located at least every twelve (12) contiguous stalls with no break or alternatively, landscaped strips at least seven (7) feet wide between parking bays.

(b) The primary plant materials shall be shade trees with at least one (1) deciduous canopy tree for every one hundred sixty (160) square feet of required landscaped area. Two (2) ornamental deciduous trees may be substituted for one (1) canopy tree, but ornamental trees shall constitute no more than twenty-five percent (25%) of the required trees. No light poles shall be located within the area of sixty percent (60%) of mature growth from the center of any tree.

(c) Islands may be curbed or may be designed as uncurbed bio-retention areas as part of an approved low impact stormwater management design approved by the Director of Public Works. The ability to maintain these areas over time must be demonstrated. (See Chapter 37, Madison General Ordinances, Erosion and Stormwater Runoff Control.)

Foundation Plantings.

Foundation plantings shall be installed along building facades, except where building facades directly abut the sidewalk, plaza, or other hardscape features. Foundation plantings shall consist primarily of shrubs, perennials, and native grasses. The Zoning Administrator may modify this requirement for development existing prior to the effective date of this ordinance, as long as improvements achieve an equivalent or greater level of landscaping for the site.

Screening Along District Boundaries.

Screening shall be provided along side and rear property boundaries between commercial, mixed use or industrial districts and residential districts. Screening shall consist of a solid wall, solid fence, or hedge with year-round foliage, between six (6) and eight (8) feet in height, except that within the front yard setback area, screening shall not exceed four (4) feet in height. Height of screening shall be measured from natural or approved grade. Berms and retaining walls shall not be used to increase grade relative to screening height.

Screening of Other Site Elements.

The following site elements shall be screened in compatibility with the design elements, materials and colors used elsewhere on the site, as follows:

(a) Refuse Disposal Areas. All developments, except single family and two family developments, shall provide a refuse disposal area. Such area shall be screened on four (4) sides (including a gate for access) by a solid, commercial-grade wood fence, wall, or equivalent material with a minimum height of six (6) feet and not greater than seven (7) feet.

(b) Outdoor Storage Areas. Outdoor storage areas shall be screened from abutting residential uses with a by a building wall or solid, commercial-grade wood fence, wall, year-round hedge, or equivalent material, with a minimum height of six (6) feet and not greater than seven (7) feet. Screening along district boundaries, where present, may provide all or part of the required screening.

(c) Loading Areas. Loading areas shall be screened from abutting residential uses and from street view to the extent feasible by a building wall or solid, commercial-grade wood fence, or equivalent material, with a minimum height of six (6) feet and not greater than seven (7) feet. Screening along district boundaries, where present, may provide all or part of the required screening.

(d) Mechanical Equipment. All rooftop and ground level mechanical equipment and utilities shall be fully screened from view from any street or residential district, as viewed from six (6) feet above ground level. Screening may consist of a building wall or fence and/or landscaping as approved by the Zoning Administrator.

Maintenance.

The owner of the premises is responsible for the watering, maintenance, repair and replacement of all landscaping, fences, and other landscape architectural features on the site. All planting beds shall be kept weed free. Plant material that has died shall be replaced no later than the upcoming June 1.

EXHIBIT G

City of Madison Fire Department

314 W Dayton Street, Madison, WI 53703-2506
Phone: 608-266-4420 • Fax: 608-267-1100 • E-mail: *fire@cityofmadison.com*

Project Address:	421 Charmany Drive | Element Collective
Contact Name & Phone #:	Elizabeth Adler | 262-707-6403

FIRE APPARATUS ACCESS AND FIRE HYDRANT WORKSHEET

	Yes	No	N/A
1. Is the building completely protected by an NFPA 13 or 13R automatic fire sprinkler system?	X		
If non-sprinklered, fire lanes extend to within 150-feet of all portions of the exterior wall?			
If sprinklered, fire lanes are within 250-feet of all portions of the exterior wall?	X		
2. Is the fire lane constructed of concrete or asphalt, designed to support a minimum load of 85,000 lbs?	X		
a) Is the fire lane a minimum unobstructed width of at least 20-feet?	X		
b) Is the fire lane unobstructed with a vertical clearance of at least 13½-feet?	X		
c) Is the minimum inside turning radius of the fire lane at least 28-feet?			X
d) Is the grade of the fire lane not more than a slope of 8%?	X		
e) Is the fire lane posted as fire lane? (Provide detail of signage.)	X		
f) Is a roll-able curb used as part of the fire lane? (Provide detail of curb.)		X	
g) Is part of a sidewalk used as part of the required fire lane? (Must support +85,000 lbs.)		X	
3. Is the fire lane obstructed by security gates or barricades? If yes:		X	
a) Is the gate a minimum of 20-feet clear opening?			X
b) Is an approved means of emergency operations installed, key vault, padlock or key switch?			X
4. Is the Fire lane dead-ended with a length greater than 150-feet?		X	
If yes, does the area for turning around fire apparatus comply with IFC D103?			X
5. Is any portion of the building to be used for high-piled storage in accordance with IFC Chapter 3206.6 If yes, see IFC 3206.6 for further requirements.			X
6. Is any part of the building greater than 30-feet above the grade plane?	X		
If yes, answer the following questions:			
a) Is the aerial apparatus fire lane parallel to one entire side of the building and covering at least 25% of the perimeter?		X	
b) Is the near edge of the aerial apparatus fire lane between 15' and 30' from the building?	X		
c) Are there any overhead power or utility lines located across the aerial apparatus fire lane?		X	
d) Are there any tree canopies expected to grow across the aerial fire lane? (Based on mature canopy width of tree species)		X	
e) Does the aerial apparatus fire lane have a minimum unobstructed width of 26-feet?	X		
f) Is the space between the aerial lane and the building free of trees exceeding 20' in heights?	X		
7. Are all portions of the required fire lanes within 500-feet of at least (2) hydrants?	X		
Note: Distances shall be measured along the path of the hose lay as it comes off the fire apparatus.			
a) Is the fire lane at least 26' wide for at least 20-feet on each side of the hydrants?		X	
b) Is there at least 40' between a hydrant and the building?		X	
c) Are the hydrant(s) setback no less than 5-feet nor more than 10-feet from the curb or edge of the street or fire lane?	X		
d) Are hydrants located in parking lot islands a minimum of 3½-feet from the hydrant to the curb?			X
e) Are there no obstructions, including but not limited to: power poles, trees, bushes, fences, posts located, or grade changes exceeding 1½-feet, within 5-feet of a fire hydrant?	X		
Note: Hydrants shall be installed and in-service prior to combustible construction on the project site.			

Attach an additional sheet if further explanation is required for any answers.

This worksheet is based on **MGO 34.503** and **IFC 2015 Edition Chapter 5 and Appendix D**; please see the codes for further information.

EXHIBIT I

Elizabeth Adler

From: Malloy, Sean <SMalloy@cityofmadison.com>
Sent: Wednesday, April 21, 2021 1:14 PM
To: 'Kelly Trac'
Cc: Halvorson, Eric; Brucaya, Zia; Elizabeth Adler; Quinlan Purkey; Stella, Timothy
Subject: RE: Element District Development TIA & TDMP

Hi Kelly,

Thanks for checking in with us, I can confirm that both the TDMP and TIA have been accepted for this site. Let me know if you have any additional questions.

Thank you,
Sean Malloy, P.E.
City of Madison - Traffic Engineering
215 Martin Luther King Jr. Blvd., Suite 109
Madison, WI 53701-2986
P.O. Box 2986
ph: 608.266.5987
smalloy@cityofmadison.com

From: Kelly Trac <ktrac@klengineering.com>
Sent: Monday, April 19, 2021 8:42 AM
To: Malloy, Sean <SMalloy@cityofmadison.com>
Cc: Halvorson, Eric <Ehalvorson@cityofmadison.com>; Brucaya, Zia <ZBrucaya@cityofmadison.com>; Elizabeth Adler <eadler@mandelgroup.com>; Quinlan Purkey <quinlan.purkey@wisc.edu>
Subject: Element District Development TIA & TDMP

Sean,

I just wanted to close the loop on the traffic items for Element District Development. I have attached the updated TDMP with comments incorporated from our meeting back in March.

Also, I know you mentioned that the TIA (submitted back in January) was accepted by the City. We are hoping to get written verification of approval by City staff for both the TIA and TDMP to close the loop on these items.

If you have any further questions, please let us know.

Thanks,

Kelly Trac, PE, PTOE, RSP1
Senior Engineer I

KL Engineering, Inc.

5400 King James Way, Suite 200
Madison, WI 53719
608.663.1218, ext. 812
ktrac@klengineering.com

klengineering.com

On behalf of KL Engineering, Inc., I hope you and your family, friends, and colleagues are safe and healthy. We would like to reassure you that we are open and look forward to working with you. Our main office line is open and you will either get a live greeting or an auto-attendant. If you receive an auto-attendant, you can reach me at extension 812. You may also reach me on my cell phone at 608-669-6175.

EXHIBIT J

Element District Development
Traffic Study
At University Research Park

CITY OF MADISON
DANE COUNTY, WISCONSIN

DATE SUBMITTED: DECEMBER 4, 2020

PREPARED FOR:
Mandel Group
330 East Kilbourn Avenue, Suite 600 South
Milwaukee, Wisconsin 53202
Phone: (414) 270-2608
Contact Person: Elizabeth Adler

PREPARED BY:
KL Engineering, Inc.
5400 King James Way, Suite 200
Madison, WI 53719
Phone: (608) 663-1218
Contact Person: Kelly Trac, PE, PTOE, RSP_1

KL Engineering
[A] Better Experience

Element District Development
City of Madison, Dane County, Wisconsin
Traffic Impact Study

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Exhibits

Appendices

1.0 Introduction

Mandel Group and University Research Park (URP) are proposing the Element District: A New Mixed-Use Gateway Development within the URP Campus. The Element District Development is located at the north end of the URP campus, in the southwest corner of the Mineral Point Road & South Whitney Way intersection in Madison, Wisconsin. Currently, this property is undeveloped green space. The development proposal includes a hotel, multi-family apartment complex, climbing gym, food hall, lab building, and café/retail space. Two new roadways, both of which are planned to connect with the existing roadway network, are proposed as part of this development. Development is anticipated to start in 2021.

KL Engineering was contracted by Mandel Group to perform a traffic impact study for the proposed development. Previously, KL Engineering completed a Traffic Impact Analysis (TIA) for URP's master plan in 2018, which included this portion of the campus. This report is a reevaluation of this area of the campus to determine the traffic impacts of the updated land uses and new roadway connections.

This report was written to satisfy the City of Madison Traffic Engineering Divisions TIA requirements.

1.1 Study Purpose and Objective

The objective of this study is to evaluate traffic operations and development access under existing conditions and those anticipated with the proposed development. This evaluation was used to determine development impacts to the existing and anticipated roadway network. Both weekday morning (AM) and afternoon (PM) peak hour traffic volumes were analyzed.

1.2 Project Location

The proposed development site is bordered by Mineral Point Road to the north, S Whitney Way to the east, and office buildings to the south and west. This part of the URP's campus currently is not developed and consists of green space and multiple pedestrian paths. This study did not consider any other proposed development within the URP campus. A project location map is provided in **Exhibit 1**.

1.3 Previous Traffic Study

KL Engineering completed a traffic study for the URP campus in February 2018, as part of the preparation of URP's long-range master redevelopment plan. This master plan included two development sites: one between Charmany Drive and S Whitney Way (site 1) and one in the southwest quadrant of Mineral Point Road and S Rosa Road (site 2).

The master plans for these sites were created with consideration of the requirements of contemporary scientific and technology companies seeking walkable corporate offices and/or labs immediately adjacent to amenities. The two sites were intended to be developed in an urban manner, with a mix of uses and a defined pedestrian-scaled streetscape where feasible. The proposed Element District Development is located within site 1 of the URP campus.

2.0 Study Area

The City of Madison Traffic Engineering Division was consulted to determine the study area and study intersections. Eight intersections were considered with the study, which are summarized in **Exhibit 1**. KL Engineering collected intersection turning movement counts and other necessary information at most study intersections as part of the original URP TIA. This data was used in this TIA to assist in modeling traffic operations.

2.1 Study Area Roadways

The study area includes the following roadways. Unless otherwise noted, all roadway classifications and average weekday traffic (AWT) volume are as reported by the City of Madison.

S Whitney Way

S Whitney Way is a standard arterial roadway that borders the east edge of the proposed development site. It has a six-lane divided urban cross section, no bicycle lanes, no on-street parking within the study area, and a speed limit of 35 miles per hour (mph). The AWT on S Whitney Way between Research Park Boulevard and Mineral Point Road is 19,000 vehicles per day (vpd).

Mineral Point Road

Mineral Point Road is a principal arterial roadway that borders the north edge of the proposed development site. It has a four-lane divided urban cross section, a shared bicycle/transit/right-turn lane, no on-street parking, and a 40 mph speed limit. The AWT is 26,750 vpd between Whitney Way and Rosa Road.

S Rosa Road

S Rosa Road is a collector street located west of the development site. It has a two-lane undivided urban cross section, bicycle lanes, sidewalks, no on-street parking, and a 30 mph speed limit. S Rosa Road has an AWT volume of 3,450 vpd just south of Mineral Point Road.

Endeavor Way (previously called Innovation Drive)

Endeavor Way is a new local road located south of the development site that connects Charmany Drive to S Whitney Way. The roadway was constructed as part of the public improvements included with the construction of the new Innovation building, located just south of Endeavor Way. Endeavor Way is a two-lane divided urban cross section, sidewalks, on-street parking, and a 25 mph speed limit. No AWT information is available for Endeavor Way.

Research Park Boulevard

Research Park Boulevard is a collector street located on the south edge of the URP campus. It has a two-lane partially divided urban cross section with medians near intersections. Research Park Boulevard has bicycle lanes, sidewalks, no on-street parking, and a 30 mph speed limit. Research Park Boulevard has an AWT volume of 4,750 vpd just west of S Whitney Way.

Charmany Drive

Charmany Drive is a local road that curves through the URP. The roadway is generally oriented in a north-south direction near its intersection with Research Park Boulevard and in an east-west direction near its intersection with S Rosa Road. It has a two-lane undivided cross section with bicycle lanes, sidewalks, on-street parking, and a 25 mph speed limit. No AWT information is available for Charmany Drive; however, PM peak hour traffic counts were 316 vph just north of Research Park Boulevard.

2.2 Study Area Intersections

The study area roadways form the following existing study intersections:

Mineral Point Road & S Rosa Road

The signalized intersection of Mineral Point Road & S Rosa Road is located west of the proposed development site. There is a single left-turn lane provided on all four approaches and a single shared right-turn/bus lane provided in both directions on Mineral Point Road.

Mineral Point Road & S Whitney Way

The signalized intersection of Mineral Point Road & S Whitney Way is located on the northeast corner of proposed development. There is a single left-turn lane provided on all four approaches and a single shared right-turn/bus lane provided in both directions of Mineral Point Road.

S Rosa Road & Charmany Drive

The T-intersection of South Rosa Road & Charmany Drive is located west of the proposed development. Charmany Drive is stop-controlled and has a left and a right-turn lane. Rosa Road has single lane approaches.

S Whitney Way & Endeavor Way

The T-intersection of S Whitney Way & Endeavor Way is a newly constructed stop-controlled intersection. The left-turn movement from Endeavor Way to Mineral Point Road is prohibited, limiting access at the intersection to right-in/right-out + left-in only. There is a left-turn lane on northbound S Whitney Way.

Charmany Drive & Research Park Boulevard

The intersection of Charmany Drive & Research Park Boulevard is located on the southern edge of the URP campus. Research Park Boulevard forms the east and west approaches, Charmany Drive forms the north approach and is controlled with a stop sign. A private commercial driveway forms the south leg of the intersection.

S Whitney Way & Research Park Boulevard/Science Drive

The signalized intersection of S Whitney Way & Research Park Boulevard / Science Drive is located on the southeast corner of the URP campus. Research Park Boulevard and Science Drive form the west and east approaches, respectively. There is a single left-turn lane provided on all approaches and a single right-turn lane provided on Research Park Boulevard and Science Drive.

An overview of the existing/planned roadway network (*without Element District development*) with lane configurations and turn lane storage lengths is provided in **Exhibit 2**.

2.3 Multimodal Accommodations

Pedestrian

Sidewalks are provided along all study area roadways. In addition, there are sidewalks within the existing URP campus and proposed development. All signalized intersections within the study area have signalized pedestrian crossings and marked crosswalks.

Bicycle

The City of Madison has an extensive bicycle route system that includes marked bicycle lanes on Mineral Point Road, S Rosa Road, Research Park Boulevard, and Charmany Drive.

Transit

The Research Park Campus is served by several transit routes. The Madison Metro west transfer point is located on the north side of Tokay Boulevard just west of Whitney Way. All of the URP campus is within one-half mile walking distance of the transfer point due to the extensive network of sidewalks and paths located on the campus. In addition, there are several transit routes along S Whitney Way with stops at Mineral Point Road and Research Park Boulevard and along Mineral Point Road with stops at S Rosa Road and S Whitney Way.

The City of Madison is also actively pursuing the implementation of a Bus Rapid Transit (BRT) system that will include a route adjacent to the URP campus and the projected Element District development. The City is currently in the planning stage and published a Locally Preferred Alternative Report in May 2020 that designated a route using S Rosa Road and Mineral Point Road.

3.0 Background Conditions

3.1 Background Traffic Volumes

Intersection Traffic Counts

KL Engineering completed turning movement counts at the study intersections during the week of August 6th, 2017 and the week of November 5th, 2017, as part of the original URP Master Plan TIA. Traffic counts were taken for three-hour periods during the morning and evening. Although these counts are a few years old, KL Engineering and the City of Madison decided that using this data is preferred over performing new intersection turning movement counts because of the significant effects that the COVID-19 pandemic has had on traffic conditions.

The morning and evening peak traffic volume hours at the study intersections were found to be 7:30 – 8:30 am and 4:30 – 5:30 pm. Balanced existing traffic volumes based on the 2017 counts are shown in **Exhibit 3**. Detailed traffic count information is provided in **Appendix A.**

Background Traffic Forecasting

Existing traffic volumes were forecasted to Year 2025, when it is expected that the proposed development will be completed. The forecasted background traffic growth accounts for increases in traffic anticipated due to additional density and development outside the study area. The following annual growth rates were provided by the City of Madison and used in this analysis:

- Mineral Point Road – 0.20%
- S Whitney Way – 0.20%
- Research Park Boulevard – 0.60%

Background growth rates were applied to through and turning movements along each corridor.

University Research Park Development

Since the completion of the URP TIA in 2018 and the traffic counts used with this study, Endeavor Lane between Charmany Drive and S Whitney Way and the Innovation 1 building (*located south of Endeavor Lane*) have been constructed. In addition, other planned development is expected to be completed and in operation inside the URP campus within the next five years. These include the following:

- 139,000 SF Office Building – Innovation 1 *(already built)*
- 100,000 SF Office Building
- 100,000 SF Lab Building

Trips to and from these land uses were estimated and included in the background traffic volumes since they are anticipated to be operating when the Element District Development is completed. Expected trips for these developments were generated using the Institute of Transportation Engineers (ITE) Trip Generation, 10th Edition, and engineering judgement. Trip distribution for these new trips followed the proposed distribution and assignment from the 2018 URP TIA. A summary of the trip generation for the URP campus is shown in **Table 1**.

Table 1. University Research Park Development Trip Generation

Land Use	ITE Land Use Code	Size	Weekday Daily Trips (rate)	AM Peak			PM Peak		
				In (%)	Out (%)	Total (rate)	In (%)	Out (%)	Total (rate)
Office Building: Innovation 1 *(Already Built)*	710	139 KSF	1,460 (10.51)	135 (86%)	22 (14%)	157 (1.13)	25 (16%)	131 (84%)	156 (1.12)
Office Building	710	100 KSF	1,061 (10.61)	103 (86%)	17 (14%)	120 (1.20)	18 (16%)	96 (84%)	114 (1.14)
Laboratory	760	100 KSF	1,228 (12.28)	32 (75%)	10 (25%)	42 (0.42)	7 (15%)	42 (85%)	49 (0.49)
Total Generated Trips:			**3,749**	**270**	**49**	**319**	**50**	**269**	**319**
Linked Trip Reduction (7.5%)*			(281)	(20)	(4)	(24)	(4)	(20)	(24)
Total Generated External Trips:			**3,468**	**250**	**45**	**295**	**46**	**249**	**295**
Multimodal Trip Reduction (15%)			(520)	(38)	(7)	(44)	(7)	(37)	(44)
Total New Driveway Trips:			**2,948**	**212**	**38**	**251**	**39**	**212**	**251**

* Linked Trip Reduction of 7.5% is calculated from the weighted average of linked trip reductions of each land use.

Year 2025 Background Traffic Volumes

Background traffic volumes represent the amount of predicted traffic that will be on the area roadway network without the proposed development. Year 2025 background intersection traffic volumes were developed using the 2017 turning movement counts, traffic growth rates provided from the City of Madison, and new trips generated by other URP constructed and planned development. No off-site developments, such as the West Gate Mall redevelopment were added to the Year 2025 background traffic volumes.

Year 2025 background traffic volumes are shown in **Exhibit 4**.

3.2 Existing Access Points

Roadway Access

Two new roadways were proposed with the URP Site 1 development: Endeavor Way and Element Way. Endeavor Way was recently constructed and provides a connection between Charmany Drive and S Whitney Way. Current access to S Whitney Way from Endeavor Way is restricted to right-in/right-out + left-in only (*prohibits left-turns from Endeavor to northbound S Whitney Way*). Element Way is planned to be a north/south roadway, providing a connection between Endeavor Way and Mineral Point Road. Access to Mineral Point Road from Element Way will be restricted to right-in/right-out only.

These two roadways were included in the background traffic analysis.

Driveway Access

The Element District development site currently has one driveway access point located off Charmany Drive. This driveway provides access to an Exact Science and Slipstream building/parking lot. Currently, there is no direct access from the proposed development site onto S Whitney Way or Mineral Point Road.

Exhibit 5 includes an overview map of the existing and proposed roadway access points to the Element District development site.

3.3 Year 2025 Background Traffic Operations

Background traffic operations were analyzed using the software program Synchro. Year 2025 background traffic volumes with the planned roadway network, existing intersection control, and existing traffic signal phasing and timings were used for the evaluation. Expected delays and queues at each of the intersections were determined from the analysis under the background traffic conditions, without the construction of the Element District development.

The analysis results quantify operations at each of the study intersections by estimating vehicular delays and queues. For all delay and queue analysis results provided, Synchro software was used to implement the Highway Capacity Manual 6 (HCM 6) traffic analysis methodologies.

Estimated delays were used to assign a level of service (LOS) for each movement of each study intersection. Level of service is determined by assigning a letter grade derived from the seconds of delay determined in the mathematical models. The LOS represents the operating conditions as perceived by the driver as specified in the HCM 6. Expected level of service for development completion year, 2025 background traffic analysis is summarized in **Table 2**. Level of service representing long delays (LOS E or LOS F) are bolded and highlighted.

Table 2. Year 2025 Background Traffic
Level of Service by Movement

Intersection	Traffic Control	Peak Period	Intersection Movement												
			Eastbound			Westbound			Northbound			Southbound			Overall
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	Intersection
Mineral Point Road & S Rosa Road	Signal	AM	B	A	A	B	A	A	D	C		D	D		**B**
		PM	A	A	A	A	A	A	**F**	D		**F**	D		**B**
Mineral Point Road & Element Way	TWSC	AM	--	A	A	--	A	--	--	--	C	--			**--**
		PM	--	A	A	--	A	--	--	--	C	--			**--**
Mineral Point Road & S Whitney Way	Signal	AM	C	A	A	D	C	C	D	B	B	D	D	**E**	**C**
		PM	D	A	A	D	C	C	D	C	C	D	D	D	**C**
S Rosa Road & Charmany Drive	TWSC	AM	--	--	--	B	--	A	--	A	A	A	A	--	**--**
		PM	--	--	--	B	--	B	--	A	A	A	A	--	**--**
S Whitney Way & Endeavor Way	TWSC	AM	--	--	B	--			C	A	--	--	A	A	**--**
		PM	--	--	C	--			B	A	--	--	A	A	**--**
S Whitney Way & Research Park Boulevard / Science Drive	Signal	AM	D	D	D	D	D	D	A	A	A	A	A	A	**A**
		PM	C	C	**E**	D	C	C	A	A	A	A	A	A	**B**
Charmany Drive & Research Park Boulevard / Science Drive	TWSC	AM	A	A		A		A	C			B		A	**--**
		PM	A	A		A		A	B			C		A	**--**

Estimated year 2025 background AM and PM peak hour 95th percentile queues based on the analysis are shown in **Exhibit 6**. Operational analysis outputs are provided in **Appendix B**.

With the exception of the S Rosa Road left-turns at Mineral Point Road, the S Whitney Way southbound right-turn at Mineral Point Road, and the Research Park Boulevard eastbound right-turn at S Whitney Way, all traffic movements at study intersections have acceptable level of service conditions (LOS D or better).

95th percentile queues were evaluated at the study intersections to determine if any queues extend beyond existing storage capabilities. In the year 2025, using background traffic volumes, the northbound and southbound left-turn at the Mineral Point Road & S Rosa Road intersection and the eastbound left-turn at the Mineral Point Road & S Whitney Way intersection experience 95th percentile queues, which are expected to extend beyond available storage during the PM peak periods.

4.0 Proposed Development & Projected Traffic

4.1 Element District Development

The proposed Element District development was created as a new mixed-used gateway for the URP Campus. The site will be configured to meet the requirements of scientific and technology companies seeking walkable offices and/or labs immediately adjacent to amenities. This site will be developed in an urban manner, with a mix of uses and a defined pedestrian-scaled streetscape, including several walking trails.

Construction of the Element District development is anticipated to start in Fall of 2021. The plan includes the following:

- 120 Room Hotel
- 179 Unit Multi-Family Apartment Complex
- Climbing Gym
- Food Hall
- Laboratory Building
- Various Retail and Café/Coffee Shops

The conceptual site plan for the Element District Development is provided in **Exhibit 7**.

4.2 Proposed Parking

The Element District development site plan includes the following proposed parking:

- Structured Parking: 563 Spaces
- Street Parking: 55 Spaces

In total, 618 parking spaces are included in the proposed site plan. This is a 25% reduction in the desired parking (821 spaces) for the proposed site.

4.3 Proposed Access

Proposed Roadways

Two new roadways are proposed as part of this development. Element Way, a north/south connector, which was already part of URP's masterplan and Catalyst Way, an east/west connector, which is a newly proposed roadway.

Element Way

Element Way is proposed as a two-lane public roadway with a 25 mph speed limit that would form a T-intersection at Endeavor Way on the south end and Mineral Point Road on the north end. Access to and from Mineral Point Road from Element Way is proposed as a right-in/right-out intersection located approximately 340 feet west of S Whitney Way. This roadway and intersection was included in the background traffic analysis since it is part of URP's masterplan.

Catalyst Way

Catalyst Way is proposed as a two-lane roadway with a 25 mph speed limit forming a T-intersection at Charmany Drive on the west end and S Whitney Way on the east end. Access to and from S Whitney Way from Catalyst Way is proposed as a right-in/right-out intersection located approximately 275 feet south of the S Whitney Way intersection.

Proposed Driveways

Six new driveway access points are proposed with the Element District development. Four are proposed on Catalyst Way and two on Element Way. No new driveway access points are proposed along any of the other adjacent roadways.

An overview of the existing and proposed roadway access points to/from the Element District development is included in **Exhibit 5.**

4.4 Proposed Multimodal Considerations

Several multimodal accommodations are included with the proposed Element District development. This includes 12-foot multi-use trails that will run parallel to Catalyst Way and Element Way and a new wooded trail which

wraps around the development site. These amenities are in addition to the existing multimodal facilities in the URP campus area, which were described previously in section *2.3 Multimodal Accommodations*.

4.5 Trip Generation

Based on the Element District development plans, expected trips were generated using the Institute of Transportation Engineers (ITE) Trip Generation, 10th Edition and engineering judgement. This trip generation was performed using the ITE land uses that most closely fit the description of each land use proposed with the development. Each trip represents either an entering or exiting vehicle to or from the development. A summary of the trip generation for the development site is shown in **Table 3**.

Table 3. Element District Development Trip Generation

Land Use	ITE Land Use Code	Size	Weekday Daily Trips (rate)	AM Peak			PM Peak		
				In (%)	Out (%)	Total (rate)	In (%)	Out (%)	Total (rate)
Hotel	310	120 Room	1,003 (8.36)	32 (59%)	23 (41%)	55 (0.46)	33 (51%)	31 (49%)	64 (0.53)
High-Turnover Sit Down Restaurant	932	222 Seats	970 (4.37)	56 (52%)	51 (48%)	107 (0.48)	53 (57%)	40 (43%)	93 (0.42)
Retail	814	3.215 KSF	204 (63.47)	6 (57%)	4 (43%)	10 (3.18)	11 (52%)	11 (48%)	22 (6.84)
Café	933	2 KSF	692 (346.23)	30 (60%)	20 (40%)	50 (25.10)	29 (50%)	29 (50%)	58 (28.34)
Café/Coffee Shop	936	2 KSF	1,509 (754.55)	103 (51%)	99 (49%)	202 (101.14)	37 (50%)	37 (50%)	74 (36.31)
Multi-family Housing (Mid-rise)	221	179 Units	974 (5.44)	16 (26%)	45 (74%)	61 (0.34)	47 (61%)	30 (39%)	77 (0.43)
Rock Climbing Gym	434	24.59 KSF	513 -	11 (33%)	23 (67%)	34 (1.40)	23 (57%)	17 (43%)	40 (1.64)
Laboratory	760	117.25 KSF	1,404 (11.98)	37 (75%)	12 (25%)	49 (0.42)	9 (15%)	48 (85%)	57 (0.49)
Total Generated Trips:			**7,269**	**291**	**277**	**568**	**242**	**243**	**485**
Linked Trip Reduction (25%)*			(1,817)	(73)	(69)	(142)	(61)	(61)	(122)
Total Generated External Trips:			**5,452**	**218**	**208**	**426**	**181**	**182**	**363**
Multimodal Trip Reduction (15%)			(818)	(33)	(31)	(64)	(27)	(27)	(54)
Total New Driveway Trips:			**4,634**	**185**	**177**	**362**	**154**	**155**	**309**

* Linked Trip Reduction of 25% is calculated from the weighted average of linked trip reductions of each land use.

4.6 Trip Reductions

Linked Trips

Linked trips are trips that occur between land uses within a development that do not result in the addition of trips to the outside roadway network. An example of a linked trip in this development would be an employee of the proposed office building picking up coffee at the café before going to work. A linked trip reduction of 25% was calculated for the proposed development. Linked trip reductions for the development site was determined based on individual land use linked trip assumptions (*from previous 2018 URP TIA)* and calculated to a weighted average for the entire site.

Land use linked trip assumptions include the following:

- 30% of Restaurant/Café/Coffee trips are linked
- 35% of Fitness/Rock Climbing trips are linked
- 30% of Apartment trips are linked to Office
- 40% of Hotel trips are linked to Office
- 7.5% of Office/Lab trips are linked to other offices/labs

Multimodal Trips

Multimodal trips are those occurring via transit, pedestrian, or bicycle modes of transportation. Based on the existing multimodal facilities in the URP campus area described in *2.3 Multimodal Accommodations* and proposed facilities in the Element District development plan described in *4.3 Proposed Multimodal Accommodations*, a 15% multimodal trip reduction was applied to the trip generation to account for these reductions in single-occupant passenger vehicle trips to and from the site.

Multimodal reduction assumptions include the following:

- 10% reduction for transit trips
  - *Development located within walking distance of West Transfer Point*
- 3% reduction in bicycle trips
  - *Shared bus/bike lane on Mineral Point Road*
- 2% reduction in pedestrian trips
  - *Neighborhoods located to north and east of development*

Trip reductions provided above are consistent with the assumptions made in the 2018 URP Master Plan TIA. Recently, the City of Madison is requiring a Transportation Demand Management Plan (TDMP) as a condition of development agreements. These plans look at strategies intended to reduce the number of daily single-occupant vehicle (SOV) trips in an effort to meet the City's trip reduction goal of 30%.

Changes to multimodal trip reductions to meet the TDMP goal and account for future nearby BRT routes were not made at this time. This decision was made in order to stay consistent with assumptions made for the previously completed URP TIA for comparison purposes. URP and the Element District developers intend to complete a TDMP as part of this development plan and will work with the City to develop strategies to reduce SOV trips and work towards achieving the 30% trip reduction goal. Implementation of this plan and future BRT service will further reduce new trips to and from the site, helping to alleviate traffic congestion issues.

4.7 New Driveway Trips

New driveway trips are those remaining after linked and multimodal trips have been removed from the trip generation estimates and represent the anticipated trips that will utilize the development driveways.

The proposed development is expected to generate 4,634 new trips per day. Three hundred sixty-two (362) (*185 entering / 177 exiting*) and 309 (*154 entering / 155 exiting*) new trips are expected during the morning and afternoon peak traffic hours, respectively.

4.8 Trip Distribution and Assignment

Trip distribution for the Element District development is consistent with the previous URP TIA. Trip distribution was determined using local traffic counts available on the City of Madison and Wisconsin Department of Transportation (WisDOT) websites, traffic counts taken as part of this study, current URP employee travel origins/destinations, and engineering judgement. The proposed trip distribution to and from the Element District development is:

- 55% to/from S Whitney Way south of Research Park Boulevard / Science Drive
  - *15% to/from S Whitney Way south of West Beltline Highway*
  - *35% to/from east on the West Beltline Highway*
  - *5% to/from Odana Road east of S Whitney Way*
- 5% to/from Odana Road west of Research Park Boulevard
- 10% to/from Mineral Point Road east of S Whitney Way
- 10% to/from Whitney Way north of Mineral Point Road
- 20% to/from Mineral Point Road west of S Rosa Road

Projected development trips were assigned to the roadway network according to the proposed trip distribution pattern and the specific access points to each of the land uses. The proposed trip distribution within the study area are shown in **Exhibit 8** and the projected new trips for the development are shown in **Exhibit 9**. Trip assignment values are based on maintaining a stop controlled, right-in/right-out + left-in access at the S Whitney Way & Endeavor Way intersection. All trip distribution and trip assignment patterns were discussed and agreed upon with City of Madison Traffic Engineering staff as part of the 2018 URP TIA.

4.9 Total Traffic

Year 2025 (*development completion*) total traffic volumes were developed by adding new driveway trips to the background traffic volumes. Total traffic volumes for Year 2025 are shown in **Exhibit 10**.

5.0 Proposed Conditions

The total traffic analysis includes background plus development traffic with the proposed new intersections and signal phasing & timing improvements. The analysis was used to determine expected delays and queues at each of the study intersections upon completion of the URP proposed development.

5.1 Proposed Improvements

Proposed Intersections

S Whitney Way & Catalyst Way

The Element District development is proposing a new right-in/right-out access to S Whitney Way to/from Catalyst Way. The access would be located approximately 825 feet north of Endeavor Way and approximately 275 feet south of Mineral Point Road.

Mineral Point Road & Element Way

URP and the Element District development is proposing a new right-in/right-out access to Mineral Point Road to/from Knowledge Road. This access would be located approximately 1,260 feet east of S Rosa Road and approximately 440 feet west of Mineral Point Road.

Traffic Signal Phasing & Timing Improvements

The proposed URP and Element District developments are expected to change traffic demand patterns at several of the study area intersections. Traffic signal phasing and signal timing adjustments in the vicinity of the proposed development would help ensure that timings continue to serve traffic demand as efficiently as possible. Traffic signal phasing improvements include the following:

- Mineral Point Road & S Rosa Road:
  - *Add protected/permitted phasing for the Mineral Point Road (eastbound & westbound) left-turn movements*
- Mineral Point Road & S Whitney Way
  - *Add protected/permitted phasing for the westbound and southbound left-turn movements*
- S Whitney Way & Research Park Boulevard
  - *Add protected/permitted phasing for the S Whitney Way (northbound & southbound) left-turn movements*

The proposed intersection and traffic signal phasing improvements were incorporated into the total traffic operational analysis. Signal timing modifications at the signalized intersections was completed to adjust for traffic demand changes to the system.

5.2 Year 2025 Total Traffic Analysis

Expected level of service for development completion year, 2025 total traffic analysis is summarized in **Table 4**. Level of service representing long delays (LOS E or LOS F) are bolded and highlighted.

Table 4. Year 2025 Total Traffic Level of Service by Movement

(with signal phasing and timing improvements)

Intersection	Traffic Control	Peak Period	Intersection Movement												
			Eastbound			Westbound			Northbound			Southbound			Overall
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	Intersection
Mineral Point Road & S Rosa Road	Signal	AM	A	B	A	A	B	B	D	C		D	D		**B**
		PM	B	B	B	B	D	C	D	C		D	C		**C**
Mineral Point Road & Element Way	TWSC	AM	--	A	A	--	A	--	--	--	C	--			**--**
		PM	--	A	A	--	A	--	--	--	C	--			**--**
Mineral Point Road & S Whitney Way	Signal	AM	C	C	C	C	C	C	D	B	B	C	D	D	**C**
		PM	C	A	A	B	D	C	D	D	D	D	D	**E**	**C**
S Rosa Road & Charmany Drive	TWSC	AM	--	--	--	B	--	A	--	A	A	A	A	--	**--**
		PM	--	--	--	B	--	B	--	A	A	A	A	--	**--**
S Whitney Way & Catalyst Way	TWSC	AM	--	--	B	--			--	A	--	--	A	A	**--**
		PM	--	--	B	--			--	A	--	--	A	A	**--**
S Whitney Way & Endeavor Way	TWSC	AM	--	--	B	--			C	A	--	--	A	A	**--**
		PM	--	--	C	--			C	A	--	--	A	A	**--**
S Whitney Way & Research Park Boulevard / Science Drive	Signal	AM	D	D	D	D	D	D	A	A	A	A	A	A	**A**
		PM	D	C	D	D	C	C	A	A	A	A	A	A	**B**
Charmany Drive & Research Park Boulevard / Science Drive	TWSC	AM	A	A		A		A	C			C		A	**--**
		PM	A	A		A		A	B			C		A	**--**

Year 2025 total traffic AM & PM peak 95th percentile queues are shown in **Exhibit 11**. Operational analysis outputs are provided in **Appendix C**.

With the exception of the S Whitney Way southbound right-turn, all traffic movements have acceptable level of service conditions (LOS D or better). Several of the turning movements at the signalized intersections are expected to experience a decrease in delay compared to the background traffic analysis. These operational improvements are due to the proposed traffic signal phasing and timing modifications, specifically the implementation of the protected/permitted left-turn phasing. Movements that are expected to see considerable improvement include the following:

- Northbound and southbound left-turns during the PM peak - *Mineral Point Road & S Rosa Road*
- Southbound left-turn during the AM peak - *Mineral Point Road & S Whitney Way*
- Westbound left-turn during the AM & PM peak - *Mineral Point Road & S Whitney Way*

With the proposed improvements, queues at the study intersections are similar or reduced compared to background traffic operations. Northbound and southbound 95th percentile left-turn queues at the Mineral Point Road & S Rosa Road intersection are still expected to extend beyond available storage during the PM peak, but are significantly reduced with the proposed signal phasing improvements. No other movements are anticipated to extend beyond available storage during peak travel periods.

5.3 Other Potential Improvements

Several other potential geometric improvements were considered during the 2018 URP TIA to accommodate future traffic growth. Based on the traffic analysis for the Element District development, none of these geometric improvements will need to be implemented with the construction of this development. All study intersections are anticipated to operate acceptably with proposed signal phasing/timing improvements and existing geometry.

Implementation of Traffic Demand Management Strategies

Traffic Demand Management (TDM) strategies are measures that reduce the number of passenger vehicles accessing a particular site or development. The purpose of these types of strategies is generally to minimize congestion on nearby roadways to reduce vehicle emissions and work towards a more sustainable transportation system. The URP campus has proposed and is implementing several TDM strategies as part of their master plan. The Element District development provides a plan that meets the goals of the URP campus master plan by creating a mixed-use development that provides offices/laboratory businesses to be immediately adjacent to other amenities. This includes amenities such as housing, restaurants, and retail. Walkability to these amenities reduces vehicular trips in and out of the site and encourages a pedestrian/bicycle friendly streetscape.

In addition, the Element District development includes several multimodal accommodations to further encourage these non-vehicle trips. This includes a shared vehicle/bike lane along Catalyst Way, a multi-use trail along Element Way, and a new wooded trail that wraps around the development site.

The proposed site is within walking distance of the Madison Metro Transit West Transfer Point located on Tokay Boulevard just west of S Whitney Way. This close proximity to the transfer point is expected to enhance transit ridership to the development. The City of Madison is also actively pursuing a BRT system that will include a route using Mineral Point Road and S Rosa Road with service at the west transfer point. Construction of the BRT system is expected to occur between fall 2022 and winter 2024.

Many of the above TDM strategies were considered and included as part of the multimodal trip reduction (*see **4.5 Trip Reductions** for details*). Additional TDM strategies could be considered by the Element District to help minimize congestion to the adjacent roadway network. Possible TDM strategies could include:

- Employee flex-spending plans for parking and transit expenses
- Flexible schedules for non-shift employees
- Work from home opportunities for some employees
- On-site amenities to eliminate the need for some trips and shift others outside of peak hours
- A ride share program for employees

These strategies would result in additional reductions to development trips that could help reduce congestion to the roadway network. A TDMP will be completed as part of this development to work towards Madison's new goal of achieving a 30% SOV trip reduction through implementation of TDM strategies.

6.0 Traffic Signal Warrants

Traffic signal warrants were evaluated at the proposed intersection of S Whitney Way & Endeavor Way. Signal warrants identify thresholds at which installation of traffic control signals should be considered. The evaluation included Warrant 2 (Four-Hour Volume) and Warrant 3 (Peak Hour Volume) traffic signal warrants defined in the *Manual on Traffic Control Devices* published by the Federal Highway Administration.

Total traffic volumes anticipated upon completion of the proposed development were evaluated for traffic signal warrants. Based on the analysis, no traffic warrants are expected to be met by the year 2025. Although warrants are not met, this intersection should be monitored for possible future signalization. Northbound left-turning traffic and eastbound approach traffic will be opposing three through lanes along S Whitney Way with possible sight distance issues and higher speed traffic. In addition, other development in the Research Park area may increase volumes at this intersection, resulting in it meeting signal warrant thresholds.

Movement restriction modifications should also be considered as development in the URP campus continues to grow. Allowing full access and/or signalization at Endeavor Way may provide congestion relief at adjacent intersections.

7.0 Proposed Internal Intersections Traffic Operations

Review of the internal URP campus intersections was completed to determine appropriate traffic control operations.

- Catalyst Way & Charmany Drive
  - *Provide stop control on Catalyst Way.*
- Catalyst Way & Element Way
  - *Provide all-way stop control. This will encourage walkability and reduced speeds within the development.*
  - *Monitor intersection operations to ensure queue spill back to adjacent intersections does not occur. Future transition to a two-way stop control may be necessary to relieve queuing on certain approaches.*
- Endeavor Way & Element Way
  - *Provide stop control on Element Way.*

8.0 Trip Generation Comparison

A comparison of the proposed land uses between the original 2018 URP TIA and the planned Element District development for this section of campus was completed to determine the traffic impacts. A summary of the 2018 URP trip generation for this development site is shown in **Table 5**.

Table 5. 2018 University Research Park Trip Generation

(Site 1: Phase 1B)

Land Use	ITE Land Use Code	Size	Weekday Daily Trips (rate)	AM Peak			PM Peak		
				In (%)	Out (%)	Total (rate)	In (%)	Out (%)	Total (rate)
Hotel	310	120 Rooms	980 (8.17)	38 (59%)	26 (41%)	64 (0.53)	37 (51%)	35 (49%)	72 (0.60)
Apartment	220	85 Units	639 (7.51)	9 (20%)	36 (80%)	45 (0.53)	42 (65%)	22 (35%)	64 (0.76)
Office Building	710	100 KSF	1,313 (13.13)	168 (88%)	23 (12%)	191 (1.91)	32 (17%)	158 (83%)	190 (1.90)
Office Building	710	100 KSF	1,313 (13.13)	168 (88%)	23 (12%)	191 (1.91)	32 (17%)	158 (83%)	190 (1.90)
Total Generated Trips:			**4,245**	**383**	**108**	**491**	**143**	**373**	**516**
Linked Trip Reduction (15%)			(637)	(57)	(16)	(74)	(21)	(56)	(77)
Total Generated External Trips:			**3,608**	**326**	**92**	**417**	**122**	**317**	**439**
Multimodal Trip Reduction (15%)			(541)	(49)	(14)	(63)	(18)	(48)	(66)
Total New Driveway Trips:			**3,067**	**277**	**78**	**354**	**104**	**269**	**373**

The development density of the Element District site plan is higher than originally expected (approx. 25 % higher). The higher density and modifications to proposed land uses has created an overall increase of weekday daily new trips of approximately 50%. However, the AM and PM peak hour trips are estimated to remain the same or decrease sightly. There are several reasons for this:

- The original plan assumed two large office buildings, concentrating a greater portion of daily trips into the morning and afternoon peak hours. The current plan includes only one laboratory building.
- More linked trips are anticipated within the development because of the food hall and other amenities immediately adjacent to business offices/laboratory space.
- New ITE Trip Generation Manual
  - Original analysis was completed in the 9th edition. This edition of the manual estimated higher amounts of AM and PM peak trips compared to the 10th edition.

Additionally, a greater variety of land uses are now proposed for the site. Peak trip generation for each individual land use is anticipated to occur at different times. This will result in an overall site composite peak hour that is lower in trip generation intensity. The original analysis assumed construction of several office buildings where the majority of trips would be coming into the development in the morning and leaving at night.

Overall, the proposed Element District development is expected to generate more daily traffic than estimated with the 2018 URP TIA. However, trips generated during the AM peak hour are anticipated to be similar and trips generated during the PM peak hour are anticipated to decrease slightly with the proposed development. In addition, the trips in and out of the development will be less directional during peak travel periods. Based on these results, the proposed development is expected to have a reduced traffic impact to the adjacent transportation network when compared to the previously proposed land uses.

9.0 Summary and Conclusions

Information and analysis in this report documents expected traffic operations before and after completion of the Element District development plan, as well as an evaluation of potential improvements. In summary, the findings of the study are as follows:

Proposed Element District Development

- The proposed development includes a variety of land use classifications including new laboratory space, an apartment complex, hotel, restaurants/food hall, and climbing gym.
- The proposed development is expected to generate a total 4,634 daily trips including 362 / 309 trips during the morning / afternoon peak traffic hours respectively.
- The proposed development site generally has good pedestrian, bicycle, and transit connectivity, anticipated to result in a 15% reduction in vehicular trips. Additional TDM strategies promoted by URP, the Element District development, and its tenants will further decrease expected vehicular trips to meet City of Madison's new 30% SOV reduction goals.

Background Traffic Operations (Year 2025)

- Background traffic volumes were developed using 2017 turning movement counts, anticipated traffic growth rates, and estimated new trips generated by other URP planned/constructed development.
- Background traffic operations at the study intersections are considered acceptable, with the exception of moderate delay and queuing for left turn movements from S Rosa Road onto Mineral Point Road during the PM peak hour.

Proposed Intersection Improvements

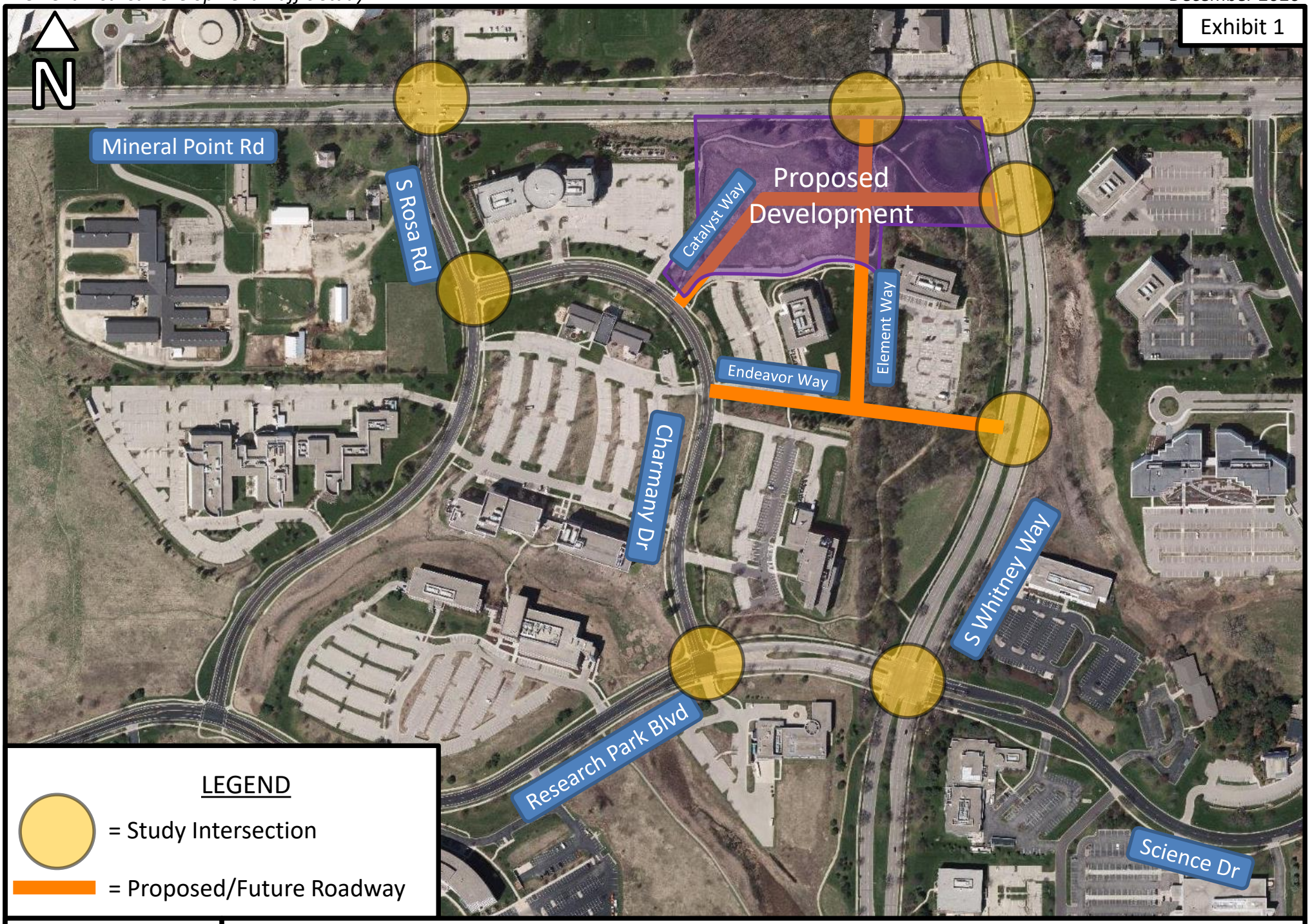
- Several potential improvements have been identified to better accommodate future traffic demand created by regional (background) growth, URP development, and/or the Element District development. With the potential improvements, all study intersections are expected to operate with low to moderate delay under 2025 traffic demand. Proposed improvements include:
    - Creating a right-in/right-out access intersection with S Whitney Way & Catalyst Way.
    - Creating a right-in/right-out access intersection with Mineral Point Road & Element Way
    - Modifying existing traffic signal phasing and timing are suggested at the following locations:
        - Mineral Point Road & S Rosa Road (*add protected/permitted phasing for all left-turn movements*)
        - Mineral Point Road & S Whitney Way (*add protected/permitted phasing for the southbound and westbound left-turn movements)*
        - S Whitney Way & Research Park Boulevard / Science Drive (*add protected/permitted phasing for the northbound and southbound left-turn movements*)

- Continue to monitor the S Whitney Way & Endeavor Way intersection for possible signalization or access modifications.

Proposed Development Comparison to Original URP TIA

- The Element District development is expected to generate more daily traffic; however, the peak hour trip generation is estimated to stay the same or decrease slightly. Peak hour trips are anticipated to be more balanced between in and out movements, further reducing anticipated impacts to operations at the study intersections.

Exhibits



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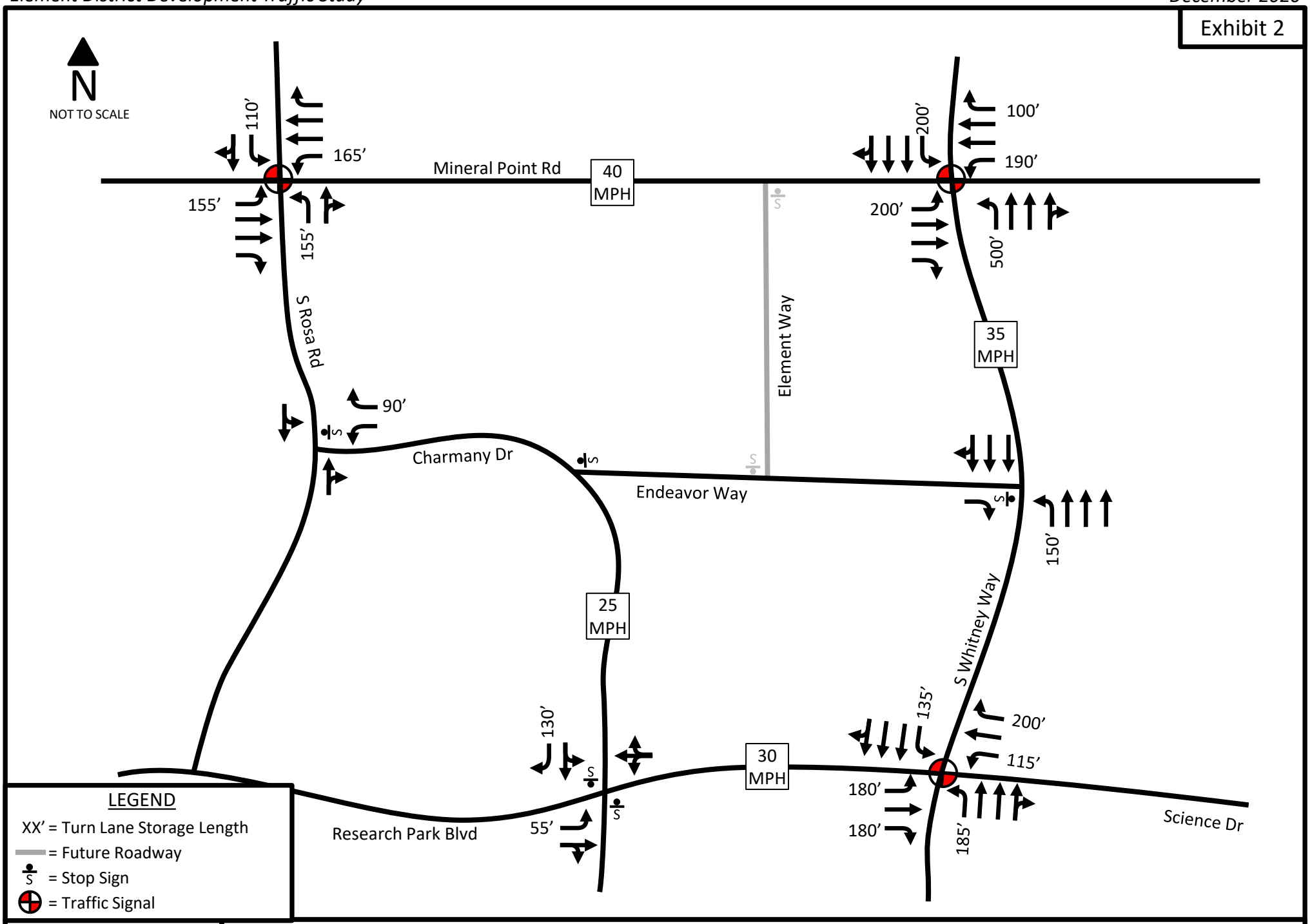
Project Location Map

Exhibit 2



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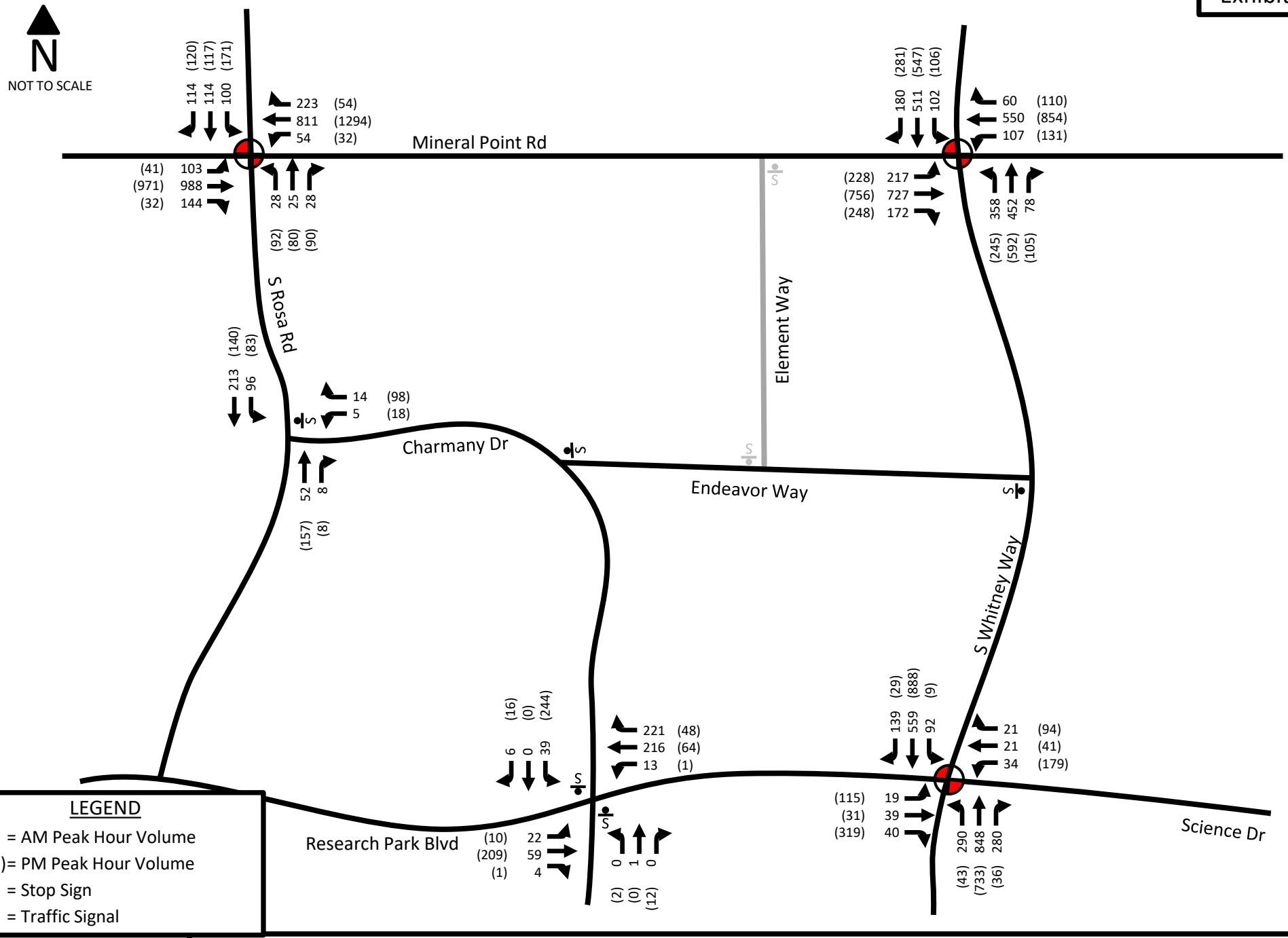
Existing Roadway Network

Exhibit 3



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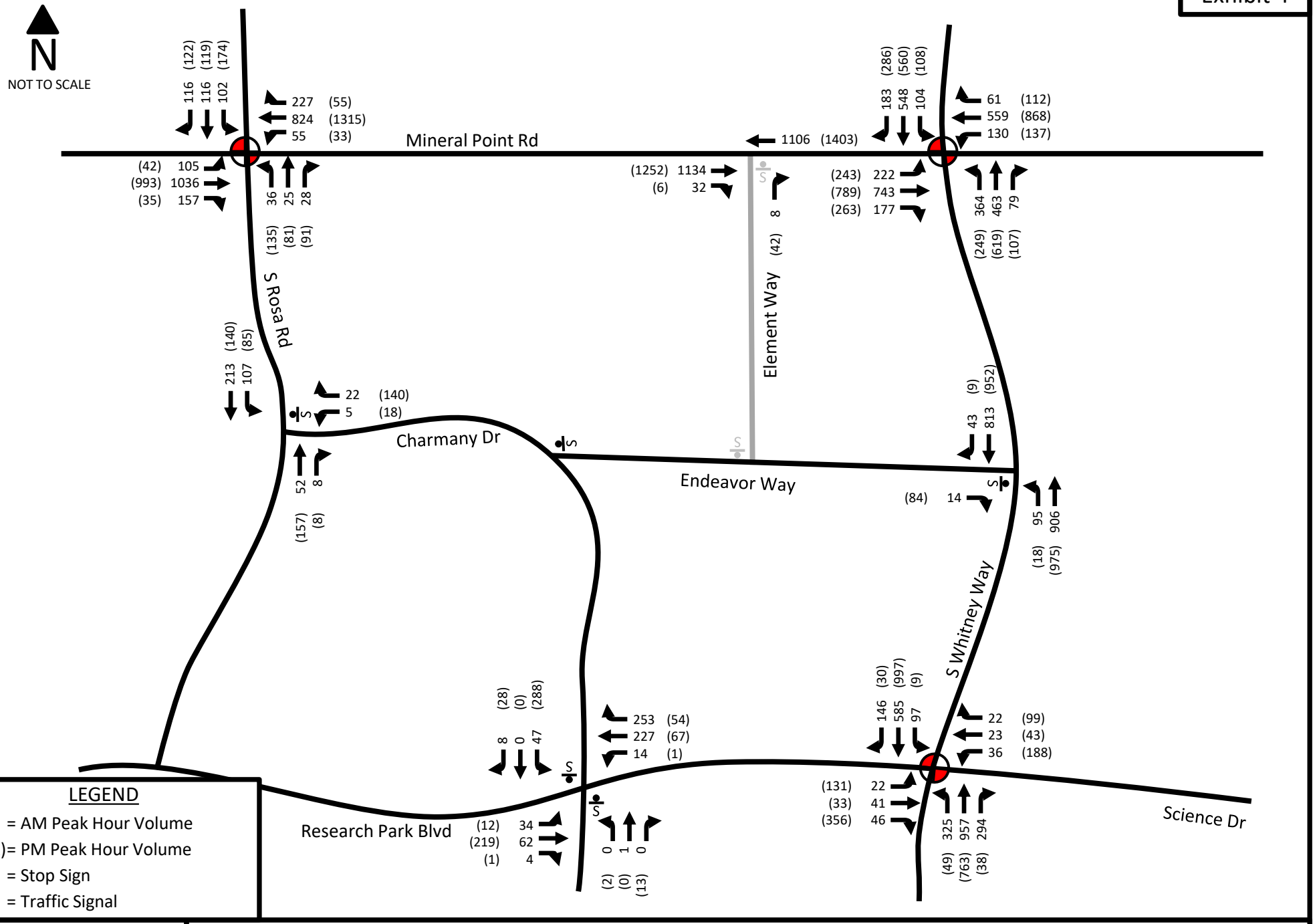
Existing 2017 Traffic Volumes

Exhibit 4



Background Traffic Volumes, Year 2025

Exhibit 5

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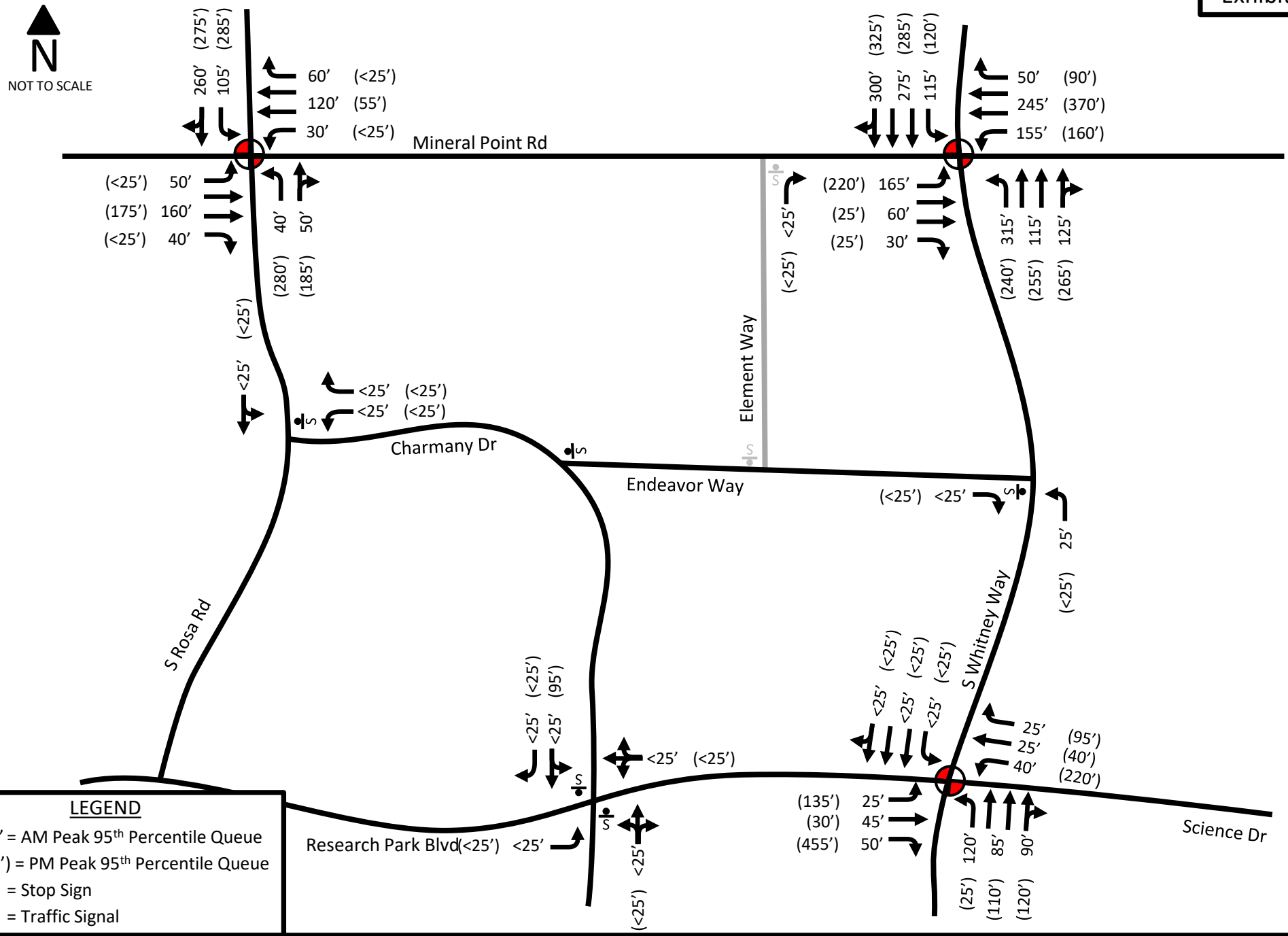
Existing and Proposed Access Overview

Exhibit 6



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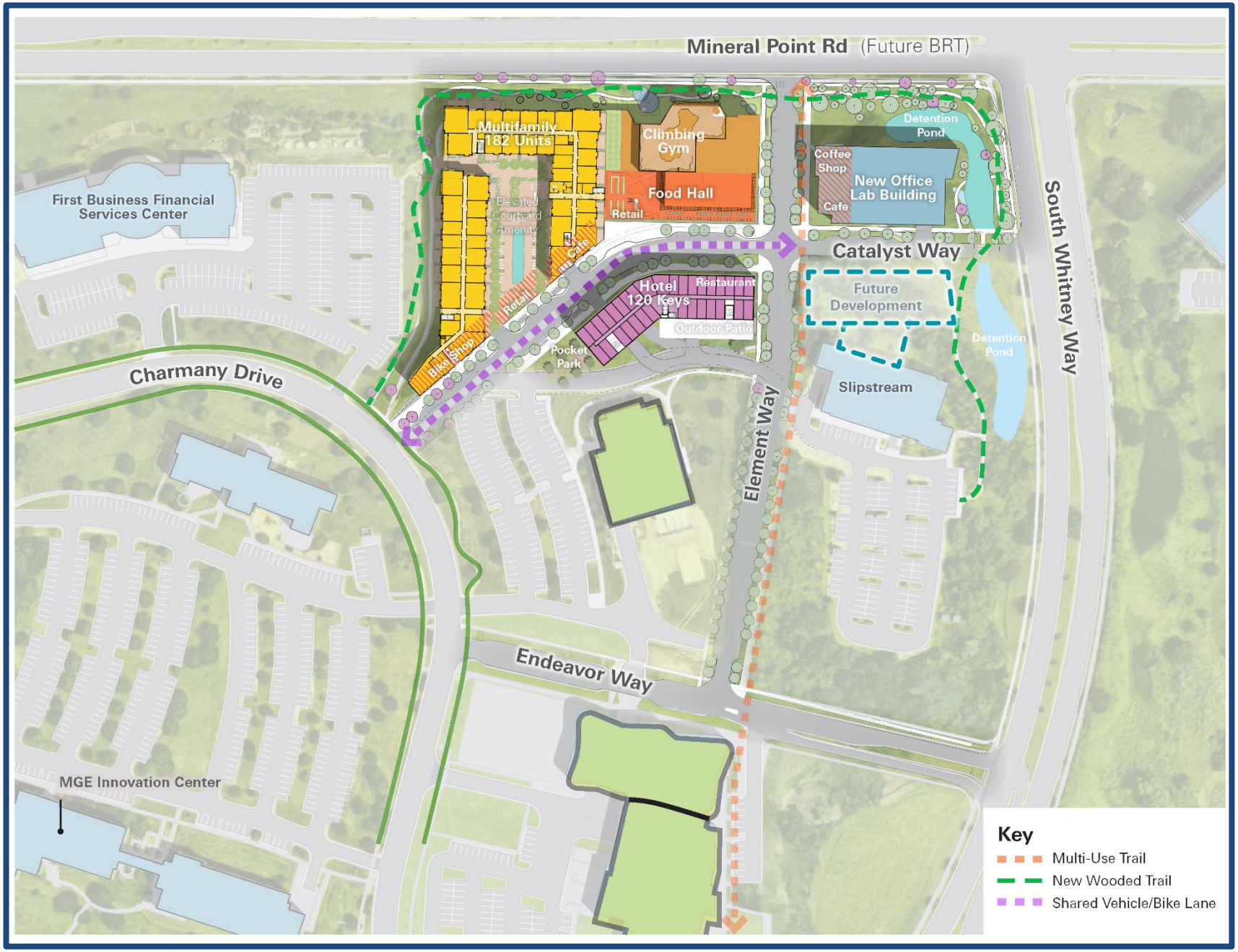
Background Traffic 95th Percentile Queues, Year 2025

Exhibit 7



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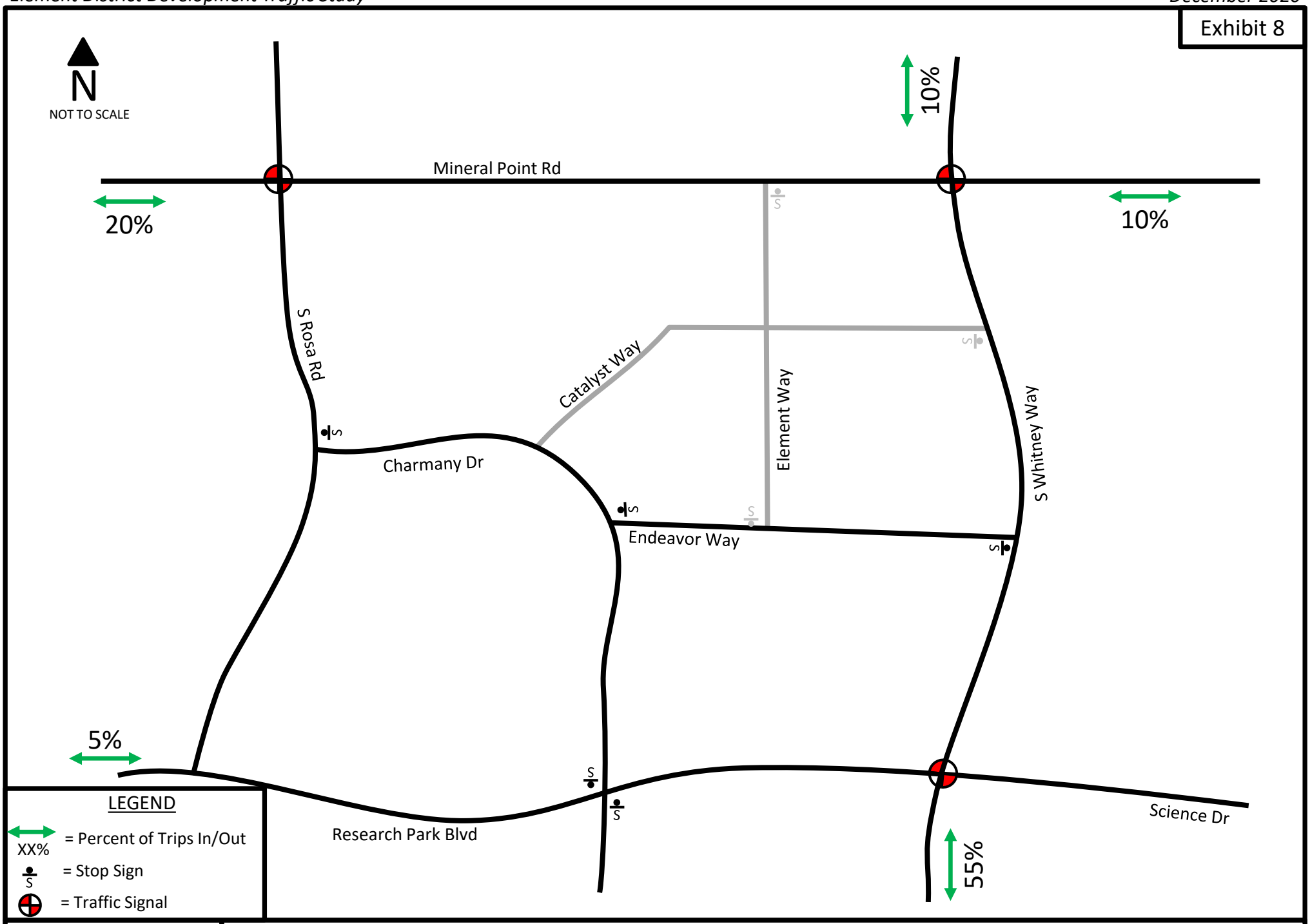
Proposed Site Plan

Exhibit 8



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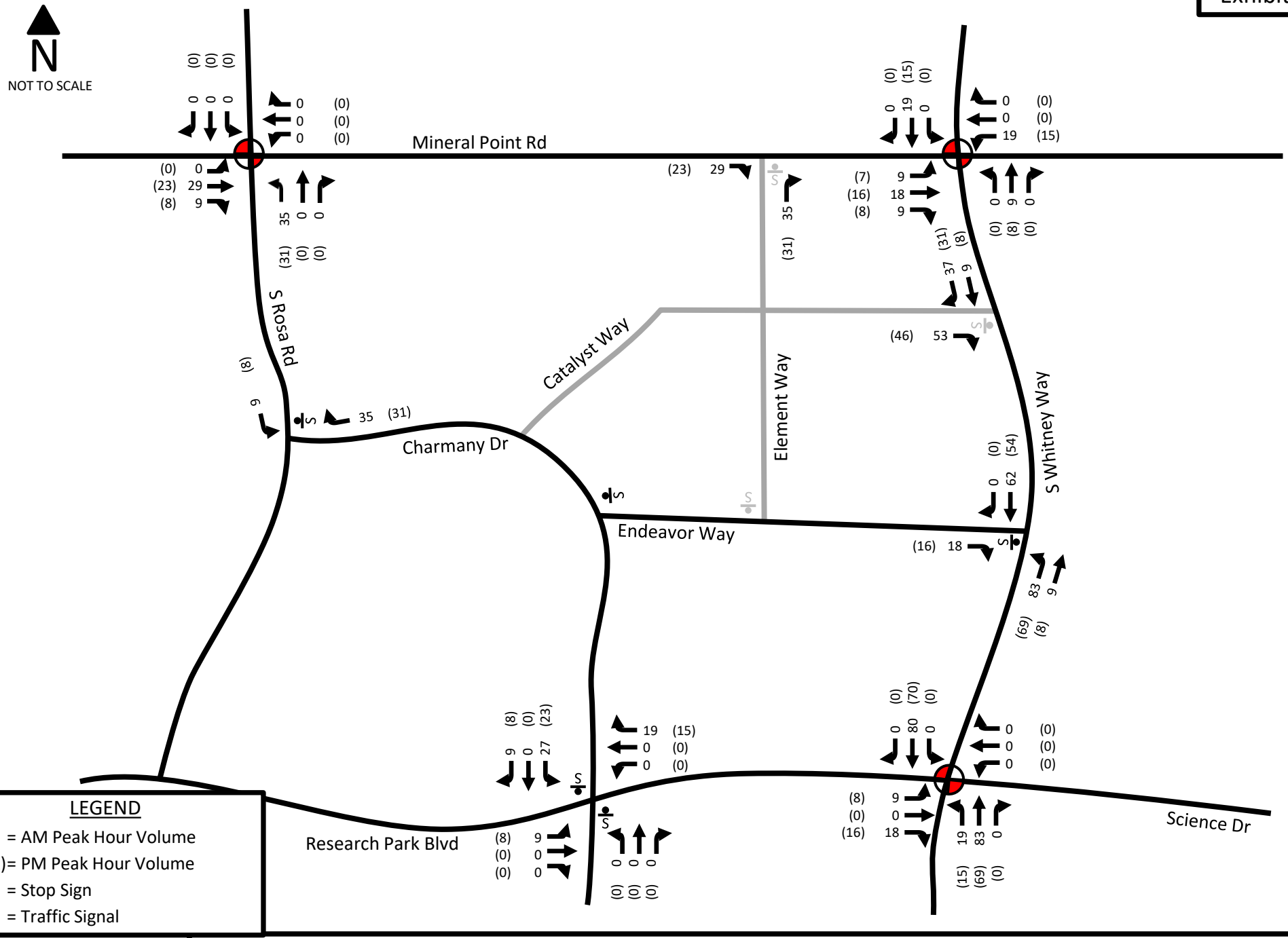
Trip Distribution

Exhibit 9



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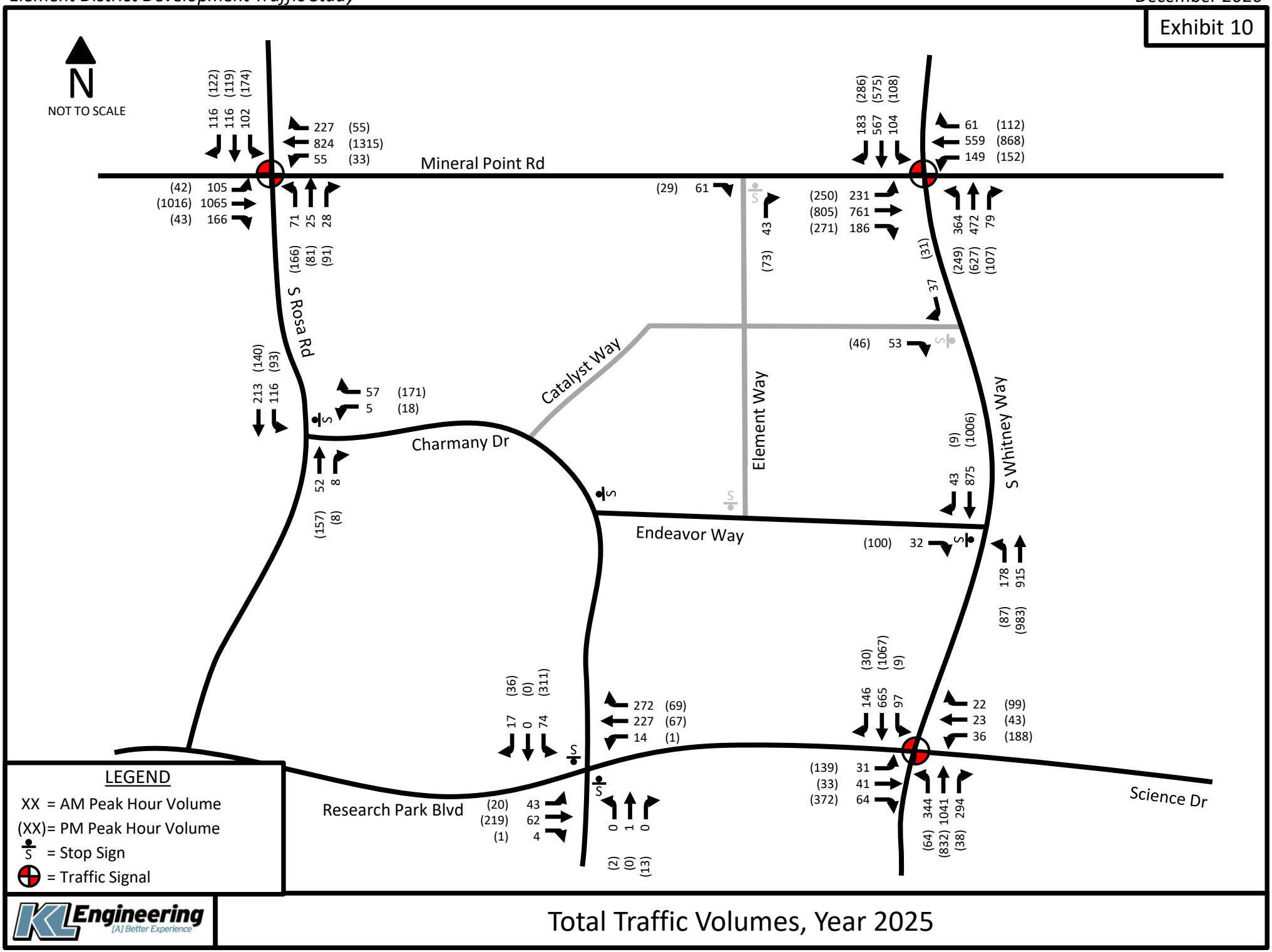
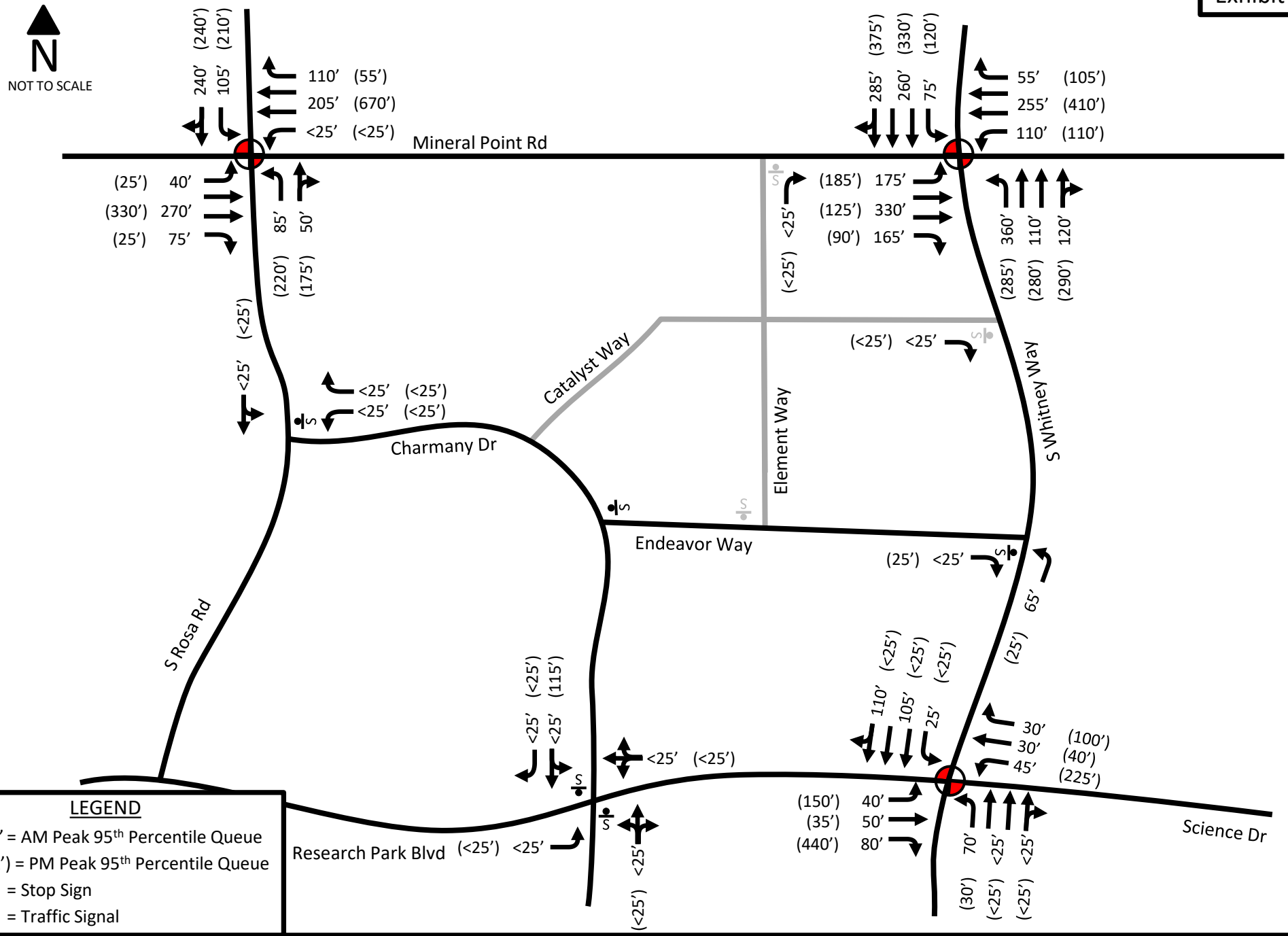
Projected New Trips

Exhibit 10



Total Traffic Volumes, Year 2025

Exhibit 11



LEGEND

XX' = AM Peak 95th Percentile Queue

(XX') = PM Peak 95th Percentile Queue

S = Stop Sign

= Traffic Signal

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Total Traffic 95th Percentile Queues, Year 2025

Appendices

APPENDIX A

Traffic Counts

Traffic Count Summary

Location: Mineral Point Rd & Rosa Rd
Madison, Dane Co, WI
Date: Wednesday, November 08, 2017

Traffic Control: Signalized Intersection
Hours Counted: 7:15-8:45AM & 4:00-5:45PM
Counted By: I. Mullooly

All Vehicles

AM Peak

Roadway	Rosa Rd						Mineral Point Rd						Rosa Rd						Mineral Point Rd						Intersection	
Approach	Southbound						Westbound						Northbound						Eastbound							
Time	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	Sum	PHF
7:30 AM	27	19	35	0	0	0	9	185	53	0	0	0	5	5	3	0	0	0	35	270	41	0	0	0	687	
7:45 AM	34	31	39	0	0	0	17	209	51	0	0	0	7	7	4	0	0	0	25	245	44	0	0	0	713	0.97
8:00 AM	20	31	21	0	0	0	15	204	75	0	0	0	4	7	10	0	0	0	22	273	36	0	0	0	718	
8:15 AM	19	33	19	0	0	0	13	192	44	0	0	0	12	6	11	0	0	0	21	284	23	0	0	0	677	
Movement Total	100	114	114	0	0	0	54	790	223	0	0	0	28	25	28	0	0	0	103	1072	144	0	0	0	Total: 2795	
Approach Total	328						1067						81						1319							

PM Peak

Approach	Southbound						Westbound						Northbound						Eastbound						Intersection	
Time	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	Sum	PHF
4:30 PM	42	32	24	0	0	0	8	323	10	0	0	0	24	24	16	0	0	0	13	240	10	0	0	0	766	
4:45 PM	48	30	28	0	0	0	5	346	18	0	0	0	25	12	26	0	0	0	17	260	12	0	0	0	827	0.96
5:00 PM	39	24	45	0	0	0	13	336	11	0	0	0	21	22	30	0	0	0	6	274	3	0	0	0	824	
5:15 PM	42	31	23	0	0	0	6	339	15	0	0	0	22	22	18	0	0	0	5	232	7	0	0	0	762	
Movement Total	171	117	120	0	0	0	32	1344	54	0	0	0	92	80	90	0	0	0	41	1006	32	0	0	0	Total: 3179	
Approach Total	408						1430						262						1079							

Heavy Vehicles

AM Peak

Roadway	Rosa Rd				Mineral Point Rd				Rosa Rd				Mineral Point Rd			
Approach	Southbound				Westbound				Northbound				Eastbound			
Time	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	U
7:30 AM	0	0	6	0	0	5	1	0	0	0	0	0	0	3	0	0
7:45 AM	0	1	1	0	0	2	0	0	0	0	0	0	1	8	0	0
8:00 AM	0	0	1	0	1	4	0	0	0	0	0	0	0	3	0	0
8:15 AM	0	0	0	0	0	4	0	0	0	0	0	0	1	8	0	0
Movement Total	0	1	8	0	1	15	1	0	0	0	0	0	2	22	0	0
Approach Total	9				17				0				24			
Heavy Vehicle %	2.7%				1.6%				0.0%				1.8%			

PM Peak

Approach	Southbound				Westbound				Northbound				Eastbound			
Time	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	U
4:30 PM	0	0	1	0	0	3	0	0	0	0	0	0	0	3	1	0
4:45 PM	0	0	0	0	0	4	0	0	0	0	1	0	1	1	0	0
5:00 PM	0	0	1	0	0	1	0	0	0	0	0	0	0	2	0	0
5:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0
Movement Total	0	0	2	0	0	9	0	0	0	0	1	0	1	8	1	0
Approach Total	2				9				1				10			
Heavy Vehicle %	0.5%				0.6%				0.4%				0.9%			

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Raw Traffic Count Data

Location: Mineral Point Rd & Rosa Rd
Madison, Dane Co, WI
Date: Wednesday, November 08, 2017

Traffic Control: Signalized Intersection Hours
Counted: 7:15-8:45AM & 4:00-5:45PM
Counted By: I. Mullooly

All Vehicles

	Southbound							Westbound							Northbound							Eastbound							
	L	T	R	U	Ped	Bikes	Total	L	T	R	U	Ped	Bikes	Total	L	T	R	U	Ped	Bikes	Total	L	T	R	U	Ped	Bikes	Total	Int Total
07:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15:00	21	11	23	0	0	0	55	7	118	31	0	0	0	156	6	5	6	0	0	0	17	26	273	35	0	0	0	334	562
07:30:00	27	19	35	0	0	0	81	9	185	53	0	0	0	247	5	5	3	0	0	0	13	35	270	41	0	0	0	346	687
07:45:00	34	31	39	0	0	0	104	17	209	51	0	0	0	277	7	7	4	0	0	0	18	25	245	44	0	0	0	314	713
Total	82	61	97	0	0	0	240	33	512	135	0	0	0	680	18	17	13	0	0	0	48	86	788	120	0	0	0	994	1962
08:00:00	20	31	21	0	0	0	72	15	204	75	0	0	0	294	4	7	10	0	0	0	21	22	273	36	0	0	0	331	718
08:15:00	19	33	19	0	0	0	71	13	192	44	0	0	0	249	12	6	11	0	0	0	29	21	284	23	0	0	0	328	677
08:30:00	13	19	15	0	0	0	47	19	189	38	0	0	0	246	5	8	2	0	0	0	15	18	221	21	0	0	0	260	568
08:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	52	83	55	0	0	0	190	47	585	157	0	0	0	789	21	21	23	0	0	0	65	61	778	80	0	0	0	919	1963
16:00:00	54	24	31	0	0	0	109	3	300	11	0	0	0	314	19	15	17	0	0	0	51	13	223	5	0	0	0	241	715
16:15:00	48	26	31	0	0	0	105	6	278	7	1	0	0	292	32	16	14	0	0	0	62	18	219	8	0	0	0	245	704
16:30:00	42	32	24	0	0	0	98	8	323	10	0	0	0	341	24	24	16	0	0	0	64	13	240	10	0	0	0	263	766
16:45:00	48	30	28	0	0	0	106	5	346	18	0	0	0	369	25	12	26	0	0	0	63	17	260	12	0	0	0	289	827
Total	192	112	114	0	0	0	418	22	1247	46	1	0	0	1316	100	67	73	0	0	0	240	61	942	35	0	0	0	1038	3012
17:00:00	39	24	45	0	0	0	108	13	336	11	0	0	0	360	21	22	30	0	0	0	73	6	274	3	0	0	0	283	824
17:15:00	42	31	23	0	0	0	96	6	339	15	0	0	0	360	22	22	18	0	0	0	62	5	232	7	0	0	0	244	762
17:30:00	34	8	21	0	0	0	63	4	273	16	0	0	0	293	17	8	13	0	1	0	39	13	230	10	0	0	0	253	648
17:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	115	63	89	0	0	0	267	23	948	42	0	0	0	1013	60	52	61	0	1	0	174	24	736	20	0	0	0	780	2234
Grand Total	441	319	355	0	0	0	1115	125	3292	380	1	0	0	3798	199	157	170	0	1	0	527	232	3244	255	0	0	0	3731	9171

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Raw Traffic Count Data

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Madison, Dane Co, WI
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Counted: 7:15-8:45AM & 4:00-5:45PM
Counted By: I. Mullooly

Trucks

	Southbound					Westbound					Northbound					Eastbound					
	L	T	R	U	Total	L	T	R	U	Total	L	T	R	U	Total	L	T	R	U	Total	Int Total
07:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15:00	1	0	1	0	2	0	3	1	0	4	0	0	0	0	0	3	1	0	0	4	10
07:30:00	0	0	6	0	6	0	5	1	0	6	0	0	0	0	0	0	3	0	0	3	15
07:45:00	0	1	1	0	2	0	2	0	0	2	0	0	0	0	0	1	8	0	0	9	13
Total	1	1	8	0	10	0	10	2	0	12	0	0	0	0	0	4	12	0	0	16	38
08:00:00	0	0	1	0	1	1	4	0	0	5	0	0	0	0	0	0	3	0	0	3	9
08:15:00	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	1	8	0	0	9	13
08:30:00	0	0	1	0	1	0	3	0	0	3	0	0	0	0	0	0	4	0	0	4	8
08:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	2	0	2	1	11	0	0	12	0	0	0	0	0	1	15	0	0	16	30
16:00:00	0	1	1	0	2	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	6
16:15:00	0	0	1	0	1	0	2	0	0	2	0	0	0	0	0	2	1	0	0	3	6
16:30:00	0	0	1	0	1	0	3	0	0	3	0	0	0	0	0	0	3	1	0	4	8
16:45:00	0	0	0	0	0	0	4	0	0	4	0	0	1	0	1	1	1	0	0	2	7
Total	0	1	3	0	4	0	12	0	0	12	0	0	1	0	1	3	6	1	0	10	27
17:00:00	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	4
17:15:00	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
17:30:00	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	1	2	0	0	3	5
17:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	2	0	2	0	3	0	0	3	0	0	0	0	0	1	6	0	0	7	12
Grand Total	1	2	15	0	18	1	36	2	0	39	0	0	1	0	1	9	39	1	0	49	107

KL Engineering (A) Better Experience

Traffic Count Summary

Location: S Whitney Way & Mineral Point Rd
Madison, Dane Co, WI
Date: Thursday, August 10, 2017

Traffic Control: Signalized Intersection
Hours Counted: 6:30-9:30AM, 3:30-6:30PM
Counted By: I. Mullooly

All Vehicles

AM Peak

Roadway	S. Whitney Way						Mineral Point Rd						S. Whitney Way						Mineral Point Rd						Intersection	
Approach	Southbound						Westbound						Northbound						Eastbound							
Time	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	Sum	PHF
7:30 AM	15	126	38	0	0	0	23	105	6	0	0	0	85	125	4	0	0	0	75	132	35	0	0	0	769	0.92
7:45 AM	27	149	33	0	0	0	33	161	17	0	0	0	72	106	21	0	0	0	63	183	46	0	0	0	911	
8:00 AM	25	119	53	0	0	0	25	142	13	0	0	0	107	126	19	0	0	0	46	165	31	0	0	0	871	
8:15 AM	24	111	47	0	0	0	26	133	17	0	0	0	84	87	11	0	0	0	52	156	47	0	0	0	795	
Movement Total	91	505	171	0	0	0	107	541	53	0	0	0	348	444	55	0	0	0	236	636	159	0	0	0	Total: 3346	
Approach Total	767						701						847						1031							

PM Peak

Approach	Southbound						Westbound						Northbound						Eastbound						Intersection	
Time	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	Sum	PHF
4:30 PM	17	123	88	0	0	0	30	185	23	0	0	0	60	131	24	0	0	0	69	197	75	0	0	0	1022	0.96
4:45 PM	14	147	71	0	0	0	19	243	22	0	0	0	61	152	27	0	0	0	45	171	76	0	0	0	1048	
5:00 PM	17	139	76	0	0	0	29	213	24	0	0	0	63	128	27	0	0	0	54	201	55	1	0	0	1027	
5:15 PM	17	109	67	0	0	0	27	192	19	0	0	0	51	146	15	0	0	0	59	172	72	0	0	0	946	
Movement Total	65	518	302	0	0	0	105	833	88	0	0	0	235	557	93	0	0	0	227	741	278	1	0	0	Total: 4043	
Approach Total	885						1026						885						1247							

Heavy Vehicles

AM Peak

Roadway	S. Whitney Way				Mineral Point Rd				S. Whitney Way				Mineral Point Rd			
Approach	Southbound				Westbound				Northbound				Eastbound			
Time	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	U
7:30 AM	0	3	0	0	0	0	0	0	1	4	0	0	0	0	3	0
7:45 AM	0	5	2	0	0	8	0	0	2	3	0	0	0	2	3	0
8:00 AM	1	5	0	0	0	2	0	0	3	5	0	0	0	2	2	0
8:15 AM	0	2	0	0	1	4	1	0	2	4	0	0	2	3	1	0
Movement Total	1	15	2	0	1	14	1	0	8	16	0	0	2	7	9	0
Approach Total	18				16				24				18			
Heavy Vehicle %	2.3%				2.3%				2.8%				1.7%			

PM Peak

Approach	Southbound				Westbound				Northbound				Eastbound			
Time	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	U
4:30 PM	0	2	0	0	0	1	0	0	1	2	0	0	0	0	1	0
4:45 PM	0	2	0	0	0	0	0	0	1	3	0	0	0	2	1	0
5:00 PM	0	6	0	0	0	0	1	0	1	3	0	0	0	1	1	0
5:15 PM	0	2	0	0	0	0	0	0	1	4	0	0	0	0	1	0
Movement Total	0	12	0	0	0	1	1	0	4	12	0	0	0	3	4	0
Approach Total	12				2				16				7			
Heavy Vehicle %	1.4%				0.2%				1.8%				0.6%			

KL Engineering
[A] Better Experience

Raw Traffic Count Data

Location: S Whitney Way & Mineral Point Rd
Madison, Dane Co, WI
Date: Thursday, August 10, 2017

Traffic Control: Signalized Intersection
Hours Counted: 6:30-9:30AM, 3:30-6:30PM
Counted By: I. Mullooly

All Vehicles

	Southbound							Westbound							Northbound							Eastbound							
	L	T	R	U	Ped	Bikes	Total	L	T	R	U	Ped	Bikes	Total	L	T	R	U	Ped	Bikes	Total	L	T	R	U	Ped	Bikes	Total	Int Total
06:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15:00	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
06:30:00	3	55	13	0	0	0	71	6	15	3	0	0	0	24	37	79	6	0	0	0	122	33	91	11	0	0	0	135	352
06:45:00	5	67	16	0	0	0	88	10	36	1	0	0	0	47	47	73	11	0	0	0	131	23	75	13	1	0	0	112	378
Total	8	122	29	0	0	0	159	16	52	4	0	0	0	72	84	152	17	0	0	0	253	56	166	24	1	0	0	247	731
07:00:00	3	80	22	0	0	0	105	14	44	7	0	0	0	65	67	109	8	0	0	0	184	42	92	25	0	0	0	159	513
07:15:00	13	96	36	0	0	0	145	20	97	4	0	0	0	121	68	128	5	0	0	0	201	85	120	24	0	0	0	229	696
07:30:00	15	126	38	0	0	0	179	23	105	6	0	0	0	134	85	125	4	0	0	0	214	75	132	35	0	0	0	242	769
07:45:00	27	149	33	0	0	0	209	33	161	17	0	0	0	211	72	106	21	0	0	0	199	63	183	46	0	0	0	292	911
Total	58	451	129	0	0	0	638	90	407	34	0	0	0	531	292	468	38	0	0	0	798	265	527	130	0	0	0	922	2889
08:00:00	25	119	53	0	0	0	197	25	142	13	0	0	0	180	107	126	19	0	0	0	252	46	165	31	0	0	0	242	871
08:15:00	24	111	47	0	0	0	182	26	133	17	0	0	0	176	84	87	11	0	0	0	182	52	156	47	0	0	0	255	795
08:30:00	14	118	51	0	0	0	183	21	113	15	0	0	0	149	80	105	24	0	0	0	209	47	175	41	0	0	0	263	804
08:45:00	7	91	51	0	0	0	149	23	140	7	0	0	0	170	72	81	12	0	0	0	165	49	168	41	0	0	0	258	742
Total	70	439	202	0	0	0	711	95	528	52	0	0	0	675	343	399	66	0	0	0	808	194	664	160	0	0	0	1018	3212
09:00:00	16	104	34	0	0	0	154	14	99	13	0	0	0	126	52	97	11	0	0	0	160	43	113	40	0	0	0	196	636
09:15:00	11	95	36	0	1	0	143	12	99	6	0	0	0	117	35	102	9	0	0	0	146	34	105	25	0	0	0	164	570
09:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	27	199	70	0	1	0	297	26	198	19	0	0	0	243	87	199	20	0	0	0	306	77	218	65	0	0	0	360	1206
15:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30:00	9	130	50	0	0	0	189	17	162	13	0	0	0	192	53	117	24	0	0	0	194	43	112	74	0	1	0	230	805
15:45:00	10	121	68	0	0	0	199	25	195	17	0	0	0	237	46	105	14	0	0	0	165	58	136	52	0	0	0	246	847
Total	19	251	118	0	0	0	388	42	357	30	0	0	0	429	99	222	38	0	0	0	359	101	248	126	0	1	0	476	1652

KL Engineering [A] Better Experience

Raw Traffic Count Data

Location: S Whitney Way & Mineral Point Rd
Madison, Dane Co, WI
Date: Thursday, August 10, 2017

Traffic Control: Signalized Intersection
Hours Counted: 6:30-9:30AM, 3:30-6:30PM
Counted By: I. Mullooly

All Vehicles

	Southbound							Westbound							Northbound							Eastbound							
	L	T	R	U	Ped	Bikes	Total	L	T	R	U	Ped	Bikes	Total	L	T	R	U	Ped	Bikes	Total	L	T	R	U	Ped	Bikes	Total	Int Total
16:00:00	14	152	67	0	0	0	233	20	156	15	0	0	0	191	50	118	27	0	0	0	195	59	152	74	0	0	0	285	904
16:15:00	7	143	80	0	0	0	230	25	202	13	0	0	0	240	42	160	25	0	0	0	227	67	160	70	0	0	0	297	994
16:30:00	17	123	88	0	0	0	228	30	185	23	0	0	0	238	60	131	24	0	0	0	215	69	197	75	0	0	0	341	1022
16:45:00	14	147	71	0	0	0	232	19	243	22	0	0	0	284	61	152	27	0	0	0	240	45	171	76	0	0	0	292	1048
Total	52	565	306	0	0	0	923	94	786	73	0	0	0	953	213	561	103	0	0	0	877	240	680	295	0	0	0	1215	3968
17:00:00	17	139	76	0	0	0	232	29	213	24	0	0	0	266	63	128	27	0	0	0	218	54	201	55	1	0	0	311	1027
17:15:00	17	109	67	0	0	0	193	27	192	19	0	0	0	238	51	146	15	0	0	0	212	59	172	72	0	0	0	303	946
17:30:00	10	112	71	0	0	0	193	31	243	24	0	0	0	298	43	123	18	0	0	0	184	60	173	48	0	0	0	281	956
17:45:00	12	117	75	0	0	0	204	27	185	20	0	0	0	232	52	127	16	0	0	0	195	54	139	56	0	0	0	249	880
Total	56	477	289	0	0	0	822	114	833	87	0	0	0	1034	209	524	76	0	0	0	809	227	685	231	1	0	0	1144	3809
18:00:00	8	93	52	0	0	0	153	13	116	13	0	0	0	142	48	112	18	0	0	0	178	42	147	52	0	0	0	241	714
18:15:00	7	88	44	0	0	0	139	15	128	14	0	0	0	157	34	110	20	0	0	0	164	51	134	50	0	0	0	235	695
18:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	15	181	96	0	0	0	292	28	244	27	0	0	0	299	82	222	38	0	0	0	342	93	281	102	0	0	0	476	1409
Grand Total	305	2685	1239	0	1	0	4230	505	3405	326	0	0	0	4236	1409	2747	396	0	0	0	4552	1253	3469	1133	2	1	0	5858	18876

Raw Traffic Count Data

Location: S Whitney Way & Mineral Point Rd
Madison, Dane Co, WI
Date: Thursday, August 10, 2017

Traffic Control: Signalized Intersection
Hours Counted: 6:30-9:30AM, 3:30-6:30PM
Counted By: I. Mullooly

Trucks

	Southbound					Westbound					Northbound					Eastbound					
	L	T	R	U	Total	L	T	R	U	Total	L	T	R	U	Total	L	T	R	U	Total	Int Total
06:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30:00	0	4	0	0	4	0	0	0	0	0	1	1	0	0	2	0	0	1	0	1	7
06:45:00	0	2	2	0	4	0	2	0	0	2	1	1	1	0	3	1	0	1	0	2	11
Total	0	6	2	0	8	0	2	0	0	2	2	2	1	0	5	1	0	2	0	3	18
07:00:00	0	3	0	0	3	0	0	0	0	0	1	3	0	0	4	0	3	1	0	4	11
07:15:00	1	2	1	0	4	0	1	0	0	1	1	4	0	0	5	1	2	1	0	4	14
07:30:00	0	3	0	0	3	0	0	0	0	0	1	4	0	0	5	0	0	3	0	3	11
07:45:00	0	5	2	0	7	0	8	0	0	8	2	3	0	0	5	0	2	3	0	5	25
Total	1	13	3	0	17	0	9	0	0	9	5	14	0	0	19	1	7	8	0	16	61
08:00:00	1	5	0	0	6	0	2	0	0	2	3	5	0	0	8	0	2	2	0	4	20
08:15:00	0	2	0	0	2	1	4	1	0	6	2	4	0	0	6	2	3	1	0	6	20
08:30:00	1	2	1	0	4	0	2	0	0	2	1	5	0	0	6	1	1	1	0	3	15
08:45:00	0	3	0	0	3	0	2	0	0	2	4	3	0	0	7	0	1	1	0	2	14
Total	2	12	1	0	15	1	10	1	0	12	10	17	0	0	27	3	7	5	0	15	69
09:00:00	0	3	2	0	5	1	2	1	0	4	3	3	0	0	6	2	3	2	0	7	22
09:15:00	0	3	0	0	3	0	4	0	0	4	1	6	1	0	8	0	2	1	0	3	18
09:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	6	2	0	8	1	6	1	0	8	4	9	1	0	14	2	5	3	0	10	40
15:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30:00	0	5	0	0	5	0	0	0	0	0	1	1	0	0	2	0	1	1	0	2	9
15:45:00	0	5	0	0	5	0	3	0	0	3	2	1	0	0	3	0	1	3	0	4	15
Total	0	10	0	0	10	0	3	0	0	3	3	2	0	0	5	0	2	4	0	6	24

Raw Traffic Count Data

Location: S Whitney Way & Mineral Point Rd
Madison, Dane Co, WI
Date: Thursday, August 10, 2017

Traffic Control: Signalized Intersection
Hours Counted: 6:30-9:30AM, 3:30-6:30PM
Counted By: I. Mullooly

Trucks

	Southbound					Westbound					Northbound					Eastbound					
	L	T	R	U	Total	L	T	R	U	Total	L	T	R	U	Total	L	T	R	U	Total	Int Total
16:00:00	0	2	0	0	2	0	0	0	0	0	2	2	0	0	4	1	0	1	0	2	8
16:15:00	0	2	1	0	3	0	1	0	0	1	1	3	0	0	4	1	1	1	0	3	11
16:30:00	0	2	0	0	2	0	1	0	0	1	1	2	0	0	3	0	0	1	0	1	7
16:45:00	0	2	0	0	2	0	0	0	0	0	1	3	0	0	4	0	2	1	0	3	9
Total	0	8	1	0	9	0	2	0	0	2	5	10	0	0	15	2	3	4	0	9	35
17:00:00	0	6	0	0	6	0	0	1	0	1	1	3	0	0	4	0	1	1	0	2	13
17:15:00	0	2	0	0	2	0	0	0	0	0	1	4	0	0	5	0	0	1	0	1	8
17:30:00	0	3	0	0	3	0	0	0	0	0	1	4	0	0	5	0	0	1	0	1	9
17:45:00	0	3	0	0	3	0	1	0	0	1	1	4	0	0	5	0	1	1	0	2	11
Total	0	14	0	0	14	0	1	1	0	2	4	15	0	0	19	0	2	4	0	6	41
18:00:00	0	2	0	0	2	0	1	0	0	1	1	1	0	0	2	0	0	2	0	2	7
18:15:00	0	1	0	0	1	0	0	0	0	0	1	3	0	0	4	1	1	1	0	3	8
18:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	3	0	0	3	0	1	0	0	1	2	4	0	0	6	1	1	3	0	5	15
Grand Total	3	72	9	0	84	2	34	3	0	39	35	73	2	0	110	10	27	33	0	70	303

Traffic Count Summary

Location: Charmany Dr & Rosa Rd
Madison, Dane Co, WI
Date: Thursday, August 10, 2017

Traffic Control: Partial Stop Control
Hours Counted: 6:30-9:30AM, 3:30-6:30PM
Counted By: I. Mullooly

All Vehicles

AM Peak

Roadway	Rosa Rd.						Charmany Dr.						Rosa Rd.										Intersection	
Approach	Southbound						Westbound						Northbound						Eastbound					
Time	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	Sum	PHF
7:30 AM	24	63	0	0	0	0	1	0	5	0	0	0	0	12	2	0	0	0	0	0	0	0	0	0	107	0.81
7:45 AM	37	52	0	0	0	0	1	0	4	0	0	0	0	14	2	0	0	0	0	0	0	0	0	0	110	
8:00 AM	13	42	0	0	0	0	1	0	3	0	0	0	0	14	2	0	0	0	0	0	0	0	0	0	75	
8:15 AM	12	36	0	0	0	0	2	0	2	0	0	0	0	12	2	0	0	0	0	0	0	0	0	0	66	
Movement Total	86	193	0	0	0	0	5	0	14	0	0	0	0	52	8	0	0	0	0	0	0	0	0	0	Total: 358	
Approach Total	279						19						60						0							

PM Peak

Approach	Southbound						Westbound						Northbound						Eastbound						Intersection	
Time	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	Sum	PHF
4:30 PM	18	36	0	1	0	0	3	0	28	0	0	0	0	43	1	0	0	0	0	0	0	0	0	0	130	0.93
4:45 PM	25	40	0	0	0	0	5	0	19	0	0	0	0	29	0	0	0	0	0	0	0	0	0	0	118	
5:00 PM	16	34	0	0	0	0	6	0	33	0	0	0	0	43	4	0	0	0	0	0	0	0	0	0	136	
5:15 PM	24	30	0	0	0	0	4	0	18	0	0	0	0	42	3	0	0	0	0	0	0	0	0	0	121	
Movement Total	83	140	0	1	0	0	18	0	98	0	0	0	0	157	8	0	0	0	0	0	0	0	0	0	Total: 505	
Approach Total	224						116						165						0							

Heavy Vehicles

AM Peak

Roadway	Rosa Rd.				Charmany Dr.				Rosa Rd.				0			
Approach	Southbound				Westbound				Northbound				Eastbound			
Time	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	U
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Movement Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach Total	0				0				0				0			
Heavy Vehicle %	0.0%				0.0%				0.0%				#DIV/0!			

PM Peak

Approach	Southbound				Westbound				Northbound				Eastbound			
Time	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	U
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
5:15 PM	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0
Movement Total	0	1	0	0	1	0	0	0	0	1	1	0	0	0	0	0
Approach Total	1				1				2				0			
Heavy Vehicle %	0.4%				0.9%				1.2%				#DIV/0!			

KL Engineering
[A] Better Experience

Raw Traffic Count Data

Location: Charmany Dr & Rosa Rd
Madison, Dane Co, WI
Date: Thursday, August 10, 2017

Traffic Control: Partial Stop Control
Hours Counted: 6:30-9:30AM, 3:30-6:30PM
Counted By: I. Mullooly

All Vehicles

	Southbound							Westbound							Northbound							Eastbound							
	L	T	R	U	Ped	Bikes	Total	L	T	R	U	Ped	Bikes	Total	L	T	R	U	Ped	Bikes	Total	L	T	R	U	Ped	Bikes	Total	Int Total
06:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15:00	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
06:30:00	3	9	0	0	0	0	12	0	0	1	0	0	0	1	0	2	0	0	0	0	2	0	0	0	0	0	0	0	15
06:45:00	14	22	0	0	0	0	36	1	0	0	0	0	0	1	0	5	3	0	0	0	8	0	0	0	0	0	0	0	45
Total	17	31	0	0	0	0	48	1	1	1	0	0	0	3	0	7	3	0	0	0	10	0	0	0	0	0	0	0	61
07:00:00	13	26	0	0	0	0	39	0	0	1	0	0	0	1	0	7	3	0	0	0	10	0	0	0	0	0	0	0	50
07:15:00	16	37	0	0	0	0	53	2	1	2	0	0	0	5	0	7	2	0	0	0	9	0	0	0	0	0	0	0	67
07:30:00	24	63	0	0	0	0	87	1	0	5	0	0	0	6	0	12	2	0	0	0	14	0	0	0	0	0	0	0	107
07:45:00	37	52	0	0	0	0	89	1	0	4	0	0	0	5	0	14	2	0	0	0	16	0	0	0	0	0	0	0	110
Total	90	178	0	0	0	0	268	4	1	12	0	0	0	17	0	40	9	0	0	0	49	0	0	0	0	0	0	0	334
08:00:00	13	42	0	0	0	0	55	1	0	3	0	0	0	4	0	14	2	0	0	0	16	0	0	0	0	0	0	0	75
08:15:00	12	36	0	0	0	0	48	2	0	2	0	0	0	4	0	12	2	0	0	0	14	0	0	0	0	0	0	0	66
08:30:00	8	34	0	1	0	0	43	0	0	5	0	0	0	5	0	19	0	0	0	0	19	0	0	0	0	0	0	0	67
08:45:00	6	38	0	0	0	0	44	2	0	2	0	0	0	4	0	12	0	0	0	0	12	0	0	0	0	0	0	0	60
Total	39	150	0	1	0	0	190	5	0	12	0	0	0	17	0	57	4	0	0	0	61	0	0	0	0	0	0	0	268
09:00:00	14	12	0	0	0	0	26	1	0	3	0	0	0	4	0	13	1	0	0	0	14	0	0	0	0	0	0	0	44
09:15:00	6	15	0	0	0	0	21	3	0	2	0	0	0	5	0	9	0	0	0	0	9	0	0	0	0	0	0	0	35
09:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	20	27	0	0	0	0	47	4	0	5	0	0	0	9	0	22	1	0	0	0	23	0	0	0	0	0	0	0	79
15:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30:00	2	15	0	0	0	0	17	1	0	20	0	0	0	21	0	20	0	0	0	0	20	0	0	0	0	0	0	0	58
15:45:00	8	21	0	0	0	0	29	0	0	12	0	0	0	12	0	21	2	0	0	0	23	0	0	0	0	0	0	0	64
Total	10	36	0	0	0	0	46	1	0	32	0	0	0	33	0	41	2	0	0	0	43	0	0	0	0	0	0	0	122

Raw Traffic Count Data

Location: Charmany Dr & Rosa Rd
Madison, Dane Co, WI
Date: Thursday, August 10, 2017

Traffic Control: Partial Stop Control
Hours Counted: 6:30-9:30AM, 3:30-6:30PM
Counted By: I. Mullooly

All Vehicles

	Southbound							Westbound							Northbound							Eastbound							
	L	T	R	U	Ped	Bikes	Total	L	T	R	U	Ped	Bikes	Total	L	T	R	U	Ped	Bikes	Total	L	T	R	U	Ped	Bikes	Total	Int Total
16:00:00	12	15	0	0	0	0	27	4	0	19	0	0	0	23	0	38	0	0	0	0	38	0	0	0	0	0	0	0	88
16:15:00	13	22	0	0	0	0	35	1	0	13	0	0	0	14	0	29	0	0	0	0	29	0	0	0	0	0	0	0	78
16:30:00	18	36	0	1	0	0	55	3	0	28	0	0	0	31	0	43	1	0	0	0	44	0	0	0	0	0	0	0	130
16:45:00	25	40	0	0	0	0	65	5	0	19	0	0	0	24	0	29	0	0	0	0	29	0	0	0	0	0	0	0	118
Total	68	113	0	1	0	0	182	13	0	79	0	0	0	92	0	139	1	0	0	0	140	0	0	0	0	0	0	0	414
17:00:00	16	34	0	0	0	0	50	6	0	33	0	0	0	39	0	43	4	0	0	0	47	0	0	0	0	0	0	0	136
17:15:00	24	30	0	0	0	0	54	4	0	18	0	0	0	22	0	42	3	0	0	0	45	0	0	0	0	0	0	0	121
17:30:00	10	13	0	0	0	0	23	2	0	11	0	0	0	13	0	35	0	0	0	0	35	0	0	0	0	0	0	0	71
17:45:00	3	15	0	0	0	0	18	2	0	5	0	0	0	7	0	17	0	0	0	0	17	0	0	0	0	0	0	0	42
Total	53	92	0	0	0	0	145	14	0	67	0	0	0	81	0	137	7	0	0	0	144	0	0	0	0	0	0	0	370
18:00:00	3	7	0	0	0	0	10	0	0	6	0	0	0	6	0	19	0	0	0	0	19	0	0	0	0	0	0	0	35
18:15:00	2	2	0	0	0	0	4	1	0	5	0	0	0	6	0	6	3	0	0	0	9	0	0	0	0	0	0	0	19
18:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	5	9	0	0	0	0	14	1	0	11	0	0	0	12	0	25	3	0	0	0	28	0	0	0	0	0	0	0	54
Grand Total	302	636	0	2	0	0	940	43	2	219	0	0	0	264	0	468	30	0	0	0	498	0	0	0	0	0	0	0	1702

Raw Traffic Count Data

Location: Charmany Dr & Rosa Rd
Madison, Dane Co, WI
Date: Thursday, August 10, 2017

Traffic Control: Partial Stop Control
Hours Counted: 6:30-9:30AM, 3:30-6:30PM
Counted By: I. Mullooly

Trucks

	Southbound					Westbound					Northbound					Eastbound					
	L	T	R	U	Total	L	T	R	U	Total	L	T	R	U	Total	L	T	R	U	Total	Int Total
06:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15:00	2	0	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
09:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	0	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
15:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Raw Traffic Count Data

Location: Charmany Dr & Rosa Rd
Madison, Dane Co, WI
Date: Thursday, August 10, 2017

Traffic Control: Partial Stop Control
Hours Counted: 6:30-9:30AM, 3:30-6:30PM
Counted By: I. Mullooly

Trucks

	Southbound					Westbound					Northbound					Eastbound					
	L	T	R	U	Total	L	T	R	U	Total	L	T	R	U	Total	L	T	R	U	Total	Int Total
16:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00:00	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2
17:15:00	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	2
17:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	1	0	0	0	1	0	1	1	0	2	0	0	0	0	0	4
18:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	2	1	0	0	3	1	0	0	0	1	0	2	1	0	3	0	0	0	0	0	7

Traffic Count Summary

Location: S Whitney Way & Research Park Blvd
Madison, Dane Co, WI
Date: Thursday, August 10, 2017

Traffic Control: Signalized Intersection
Hours Counted: 6:30-9:30AM, 3:30-6:30PM
Counted By: I. Mullooly

All Vehicles

AM Peak

Roadway	S. Whitney Way						Research Park Blvd.						S. Whitney Way						Research Park Blvd.						Intersection	
Approach	Southbound						Westbound						Northbound						Eastbound							
Time	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	Sum	PHF
7:30 AM	19	126	35	0	0	0	5	1	11	0	0	0	67	201	71	0	0	0	2	6	5	0	0	0	549	0.93
7:45 AM	29	148	53	0	0	0	10	6	4	0	0	0	74	211	75	0	0	0	4	13	13	0	0	0	640	
8:00 AM	28	127	27	0	0	0	9	6	2	0	0	0	89	237	75	0	0	0	5	9	7	0	0	0	621	
8:15 AM	16	150	24	0	0	0	10	8	4	0	0	0	60	199	59	0	0	0	6	9	13	0	0	0	558	
Movement Total	92	551	139	0	0	0	34	21	21	0	0	0	290	848	280	0	0	0	17	37	38	0	0	0	Total: 2368	
Approach Total	782						76						1418						92							

PM Peak

Approach	Southbound						Westbound						Northbound						Eastbound						Intersection	
Time	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	Sum	PHF
4:30 PM	3	228	7	0	0	0	42	7	23	0	0	0	9	198	8	0	0	0	21	6	62	0	0	0	614	0.95
4:45 PM	1	230	9	0	0	0	61	14	21	0	0	0	8	177	8	0	0	0	38	7	84	0	0	0	658	
5:00 PM	0	220	9	0	0	0	32	8	19	0	0	0	15	200	9	0	0	0	21	6	67	0	0	0	606	
5:15 PM	5	210	4	0	0	0	44	12	31	0	0	0	11	158	11	1	0	0	31	9	102	0	0	0	629	
Movement Total	9	888	29	0	0	0	179	41	94	0	0	0	43	733	36	1	0	0	111	28	315	0	0	0	Total: 2507	
Approach Total	926						314						813						454							

Heavy Vehicles

AM Peak

Roadway	S. Whitney Way				Research Park Blvd.				S. Whitney Way				Research Park Blvd.			
Approach	Southbound				Westbound				Northbound				Eastbound			
Time	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	U
7:30 AM	0	5	0	0	0	0	0	0	1	6	1	0	0	0	0	0
7:45 AM	1	5	1	0	1	0	0	0	0	6	2	0	0	0	0	0
8:00 AM	0	6	0	0	1	0	0	0	1	7	0	0	0	0	0	0
8:15 AM	0	4	0	0	1	0	0	0	0	7	2	0	0	0	0	0
Movement Total	1	20	1	0	3	0	0	0	2	26	5	0	0	0	0	0
Approach Total	22				3				33				0			
Heavy Vehicle %	2.8%				3.9%				2.3%				0.0%			

PM Peak

Approach	Southbound				Westbound				Northbound				Eastbound			
Time	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	U
4:30 PM	0	3	0	0	0	1	0	0	0	5	0	0	0	1	0	0
4:45 PM	0	5	0	0	1	0	0	0	0	4	1	0	0	0	0	0
5:00 PM	0	3	0	0	1	0	0	0	0	4	0	0	0	1	0	0
5:15 PM	0	4	0	0	2	1	0	0	0	4	1	0	0	0	0	0
Movement Total	0	15	0	0	4	2	0	0	0	17	2	0	0	2	0	0
Approach Total	15				6				19				2			
Heavy Vehicle %	1.6%				1.9%				2.3%				0.4%			

KL Engineering
[A] Better Experience

Raw Traffic Count Data

Location: S Whitney Way & Research Park Blvd
Madison, Dane Co, WI
Date: Thursday, August 10, 2017

Traffic Control: Signalized Intersection
Hours Counted: 6:30-9:30AM, 3:30-6:30PM
Counted By: I. Mullooly

All Vehicles

	Southbound							Westbound							Northbound							Eastbound							
	L	T	R	U	Ped	Bikes	Total	L	T	R	U	Ped	Bikes	Total	L	T	R	U	Ped	Bikes	Total	L	T	R	U	Ped	Bikes	Total	Int Total
06:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15:00	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
06:30:00	4	74	3	0	0	0	81	3	0	3	0	0	0	6	11	120	24	0	0	0	155	1	2	0	0	0	0	3	245
06:45:00	5	77	14	0	0	0	96	3	1	0	0	0	0	4	30	132	40	0	0	0	202	0	1	0	0	0	0	1	303
Total	9	151	17	0	0	0	177	6	2	3	0	0	0	11	41	252	64	0	0	0	357	1	3	0	0	0	0	4	549
07:00:00	13	94	10	0	0	0	117	3	1	3	0	0	0	7	40	173	43	0	0	0	256	0	3	6	0	0	0	9	389
07:15:00	9	123	24	0	0	0	156	8	2	2	0	0	0	12	75	214	53	0	0	0	342	0	3	5	0	0	0	8	518
07:30:00	19	126	35	0	0	0	180	5	1	11	0	0	0	17	67	201	71	0	0	0	339	2	6	5	0	0	0	13	549
07:45:00	29	148	53	0	0	0	230	10	6	4	0	0	0	20	74	211	75	0	0	0	360	4	13	13	0	0	0	30	640
Total	70	491	122	0	0	0	683	26	10	20	0	0	0	56	256	799	242	0	0	0	1297	6	25	29	0	0	0	60	2096
08:00:00	28	127	27	0	0	0	182	9	6	2	0	0	0	17	89	237	75	0	0	0	401	5	9	7	0	0	0	21	621
08:15:00	16	150	24	0	0	0	190	10	8	4	0	0	0	22	60	199	59	0	0	0	318	6	9	13	0	0	0	28	558
08:30:00	18	134	18	0	0	0	170	15	6	5	0	0	0	26	53	186	41	0	0	0	280	4	11	9	0	0	0	24	500
08:45:00	25	126	25	0	0	0	176	7	2	10	0	0	0	19	39	161	54	0	0	0	254	2	6	6	0	0	0	14	463
Total	87	537	94	0	0	0	718	41	22	21	0	0	0	84	241	783	229	0	0	0	1253	17	35	35	0	0	0	87	2142
09:00:00	12	124	14	0	0	0	150	13	8	8	0	0	0	29	38	164	39	0	0	0	241	7	7	11	0	0	0	25	445
09:15:00	5	122	7	0	0	0	134	13	4	2	0	0	0	19	17	135	39	0	0	0	191	3	3	11	0	0	0	17	361
09:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	17	246	21	0	0	0	284	26	12	10	0	0	0	48	55	299	78	0	0	0	432	10	10	22	0	0	0	42	806
15:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15:00	0	5	0	0	0	0	5	1	0	0	0	0	0	1	0	3	2	0	0	0	5	0	0	0	0	0	0	0	11
15:30:00	5	200	8	1	0	0	214	37	7	14	0	0	0	58	8	124	7	0	0	0	139	15	2	30	0	0	0	47	458
15:45:00	6	217	10	1	0	0	234	41	5	14	0	0	0	60	8	173	16	0	0	0	197	13	1	27	0	0	0	41	532
Total	11	422	18	2	0	0	453	79	12	28	0	0	0	119	16	300	25	0	0	0	341	28	3	57	0	0	0	88	1001

KL Engineering [A] Better Experience

Raw Traffic Count Data

Location: S Whitney Way & Research Park Blvd
Madison, Dane Co, WI
Date: Thursday, August 10, 2017

Traffic Control: Signalized Intersection
Hours Counted: 6:30-9:30AM, 3:30-6:30PM
Counted By: I. Mullooly

All Vehicles

	Southbound							Westbound							Northbound							Eastbound							
	L	T	R	U	Ped	Bikes	Total	L	T	R	U	Ped	Bikes	Total	L	T	R	U	Ped	Bikes	Total	L	T	R	U	Ped	Bikes	Total	Int Total
16:00:00	5	198	10	1	0	0	214	38	4	21	0	0	0	63	10	136	5	0	0	0	151	12	3	35	0	0	0	50	478
16:15:00	4	243	6	0	0	0	253	55	8	23	0	0	0	86	12	167	17	0	0	0	196	16	6	82	0	0	0	104	639
16:30:00	3	228	7	0	0	0	238	42	7	23	0	0	0	72	9	198	8	0	0	0	215	21	6	62	0	0	0	89	614
16:45:00	1	230	9	0	0	0	240	61	14	21	0	0	0	96	8	177	8	0	0	0	193	38	7	84	0	0	0	129	658
Total	13	899	32	1	0	0	945	196	33	88	0	0	0	317	39	678	38	0	0	0	755	87	22	263	0	0	0	372	2389
17:00:00	0	220	9	0	0	0	229	32	8	19	0	0	0	59	15	200	9	0	0	0	224	21	6	67	0	0	0	94	606
17:15:00	5	210	4	0	0	0	219	44	12	31	0	0	0	87	11	158	11	1	0	0	181	31	9	102	0	0	0	142	629
17:30:00	4	208	3	0	0	0	215	34	7	22	0	0	0	63	15	166	13	0	0	0	194	23	8	72	0	0	0	103	575
17:45:00	2	196	2	0	0	0	200	31	4	13	0	0	0	48	6	150	6	0	0	0	162	20	4	42	0	0	0	66	476
Total	11	834	18	0	0	0	863	141	31	85	0	0	0	257	47	674	39	1	0	0	761	95	27	283	0	0	0	405	2286
18:00:00	1	188	4	0	0	0	193	30	3	8	0	0	0	41	3	174	10	0	0	0	187	6	1	46	0	0	0	53	474
18:15:00	3	170	4	0	0	0	177	13	5	7	0	0	0	25	5	153	11	0	0	0	169	10	1	28	0	0	0	39	410
18:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	4	358	8	0	0	0	370	43	8	15	0	0	0	66	8	327	21	0	0	0	356	16	2	74	0	0	0	92	884
Grand Total	222	3938	330	3	0	0	4493	558	130	270	0	0	0	958	703	4112	736	1	0	0	5552	260	127	763	0	0	0	1150	12153

KL Engineering [A] Better Experience

Raw Traffic Count Data

Location: S Whitney Way & Research Park Blvd
Madison, Dane Co, WI
Date: Thursday, August 10, 2017

Traffic Control: Signalized Intersection
Hours Counted: 6:30-9:30AM, 3:30-6:30PM
Counted By: I. Mullooly

Trucks

	Southbound					Westbound					Northbound					Eastbound					
	L	T	R	U	Total	L	T	R	U	Total	L	T	R	U	Total	L	T	R	U	Total	Int Total
06:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30:00	0	5	1	0	6	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	9
06:45:00	0	3	0	0	3	1	0	0	0	1	1	2	2	0	5	0	0	0	0	0	9
Total	0	8	1	0	9	1	0	0	0	1	1	5	2	0	8	0	0	0	0	0	18
07:00:00	0	5	0	0	5	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	9
07:15:00	0	3	0	0	3	2	0	0	0	2	0	5	3	0	8	0	0	0	0	0	13
07:30:00	0	5	0	0	5	0	0	0	0	0	1	6	1	0	8	0	0	0	0	0	13
07:45:00	1	5	1	0	7	1	0	0	0	1	0	6	2	0	8	0	0	0	0	0	16
Total	1	18	1	0	20	3	0	0	0	3	1	20	7	0	28	0	0	0	0	0	51
08:00:00	0	6	0	0	6	1	0	0	0	1	1	7	0	0	8	0	0	0	0	0	15
08:15:00	0	4	0	0	4	1	0	0	0	1	0	7	2	0	9	0	0	0	0	0	14
08:30:00	0	3	0	0	3	0	1	1	0	2	0	4	0	0	4	0	0	1	0	1	10
08:45:00	0	3	0	0	3	0	1	0	0	1	1	9	4	0	14	0	0	0	0	0	18
Total	0	16	0	0	16	2	2	1	0	5	2	27	6	0	35	0	0	1	0	1	57
09:00:00	0	5	0	0	5	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	10
09:15:00	0	2	0	0	2	0	0	0	0	0	0	8	1	0	9	0	0	1	0	1	12
09:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	7	0	0	7	0	0	0	0	0	0	13	1	0	14	0	0	1	0	1	22
15:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15:00	0	5	0	0	5	1	0	0	0	1	0	3	2	0	5	0	0	0	0	0	11
15:30:00	0	9	0	0	9	1	0	0	0	1	0	4	1	0	5	0	1	0	0	1	16
15:45:00	0	4	0	0	4	5	0	0	0	5	0	3	1	0	4	0	0	0	0	0	13
Total	0	18	0	0	18	7	0	0	0	7	0	10	4	0	14	0	1	0	0	1	40

Raw Traffic Count Data

Location: S Whitney Way & Research Park Blvd
Madison, Dane Co, WI
Date: Thursday, August 10, 2017

Traffic Control: Signalized Intersection
Hours Counted: 6:30-9:30AM, 3:30-6:30PM
Counted By: I. Mullooly

Trucks

	Southbound					Westbound					Northbound					Eastbound					
	L	T	R	U	Total	L	T	R	U	Total	L	T	R	U	Total	L	T	R	U	Total	Int Total
16:00:00	0	3	0	0	3	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	7
16:15:00	0	3	0	0	3	2	0	0	0	2	0	3	1	0	4	0	0	0	0	0	9
16:30:00	0	3	0	0	3	0	1	0	0	1	0	5	0	0	5	0	1	0	0	1	10
16:45:00	0	5	0	0	5	1	0	0	0	1	0	4	1	0	5	0	0	0	0	0	11
Total	0	14	0	0	14	3	1	0	0	4	0	16	2	0	18	0	1	0	0	1	37
17:00:00	0	3	0	0	3	1	0	0	0	1	0	4	0	0	4	0	1	0	0	1	9
17:15:00	0	4	0	0	4	2	1	0	0	3	0	4	1	0	5	0	0	0	0	0	12
17:30:00	0	4	0	0	4	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	10
17:45:00	0	4	0	0	4	2	0	0	0	2	0	2	0	0	2	0	0	0	0	0	8
Total	0	15	0	0	15	5	1	0	0	6	0	15	2	0	17	0	1	0	0	1	39
18:00:00	0	2	0	0	2	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	6
18:15:00	0	5	0	0	5	1	0	0	0	1	0	4	2	0	6	0	0	0	0	0	12
18:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	7	0	0	7	1	0	0	0	1	0	7	3	0	10	0	0	0	0	0	18
Grand Total	1	103	2	0	106	22	4	1	0	27	4	113	27	0	144	0	3	2	0	5	282

KL Engineering [A] Better Experience

Traffic Count Summary

Location: Research Park Blvd & Charmany Dr
Madison, Dane Co, WI
Date: Thursday, August 10, 2017

Traffic Control: Partial Stop Control
Hours Counted: 6:30-9:30AM, 3:30-6:30PM
Counted By: I. Mullooly

All Vehicles

AM Peak

Roadway	Charmany Dr.						Research Park Blvd.						Driveway						Research Park Blvd.						Intersection	
Approach	Southbound						Westbound						Northbound						Eastbound							
Time	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	Sum	PHF
7:30 AM	13	0	2	0	0	0	1	75	56	0	0	0	0	1	0	0	0	0	10	17	1	0	2	0	176	0.79
7:45 AM	8	0	2	0	0	0	5	49	67	0	1	0	0	0	0	0	0	0	7	15	1	0	0	0	154	
8:00 AM	11	0	1	0	0	0	4	43	46	0	0	0	0	0	0	0	0	0	2	13	2	0	1	0	122	
8:15 AM	7	0	1	0	0	0	3	37	40	0	0	0	0	0	0	0	0	0	3	14	0	0	0	0	105	
Movement Total	39	0	6	0	0	0	13	204	209	0	1	0	0	1	0	0	0	0	22	59	4	0	3	0	Total: 557	
Approach Total	45						426						1						85							

PM Peak

Approach	Southbound						Westbound						Northbound						Eastbound						Intersection	
Time	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	Sum	PHF
4:30 PM	58	0	5	0	0	0	1	20	7	0	0	0	0	0	0	0	0	0	2	72	0	0	0	0	165	0.87
4:45 PM	52	0	3	0	0	0	0	16	15	0	0	0	1	0	1	0	0	0	3	40	0	0	0	0	131	
5:00 PM	80	0	3	0	0	0	0	14	11	0	0	0	0	0	5	0	0	0	4	56	1	0	0	0	174	
5:15 PM	54	0	5	0	0	0	0	12	13	0	0	0	1	0	6	0	0	0	1	41	0	0	0	0	133	
Movement Total	244	0	16	0	0	0	1	62	46	0	0	0	2	0	12	0	0	0	10	209	1	0	0	0	Total: 603	
Approach Total	260						109						14						220							

Heavy Vehicles

AM Peak

Roadway	Charmany Dr.				Research Park Blvd.				Driveway				Research Park Blvd.			
Approach	Southbound				Westbound				Northbound				Eastbound			
Time	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	U
7:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Movement Total	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0
Approach Total	0				3				0				0			
Heavy Vehicle %	0.0%				0.7%				0.0%				0.0%			

PM Peak

Approach	Southbound				Westbound				Northbound				Eastbound			
Time	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	U
4:30 PM	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
5:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Movement Total	0	0	1	0	0	2	0	0	0	0	0	0	0	2	0	0
Approach Total	1				2				0				2			
Heavy Vehicle %	0.4%				1.8%				0.0%				0.9%			

KL Engineering
[A] Better Experience

Raw Traffic Count Data

Location: Research Park Blvd & Charmany Dr
Madison, Dane Co, WI
Date: Thursday, August 10, 2017

Traffic Control: Partial Stop Control
Hours Counted: 6:30-9:30AM, 3:30-6:30PM
Counted By: I. Mullooly

All Vehicles

	Southbound							Westbound							Northbound							Eastbound							
	L	T	R	U	Ped	Bikes	Total	L	T	R	U	Ped	Bikes	Total	L	T	R	U	Ped	Bikes	Total	L	T	R	U	Ped	Bikes	Total	Int Total
06:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15:00	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
06:30:00	0	0	0	0	0	0	0	5	22	18	0	0	0	45	0	0	0	0	0	0	0	3	3	0	0	0	0	6	51
06:45:00	1	0	2	0	0	0	3	0	34	23	0	0	0	57	0	0	0	0	0	1	1	0	6	0	0	0	0	6	67
Total	1	0	2	0	0	0	3	5	57	41	0	0	0	103	0	0	0	0	0	1	1	3	9	0	0	0	0	12	119
07:00:00	2	0	0	0	0	0	2	0	50	51	0	0	0	101	0	0	0	0	0	0	0	2	6	0	0	0	0	8	111
07:15:00	5	0	1	0	0	0	6	1	59	41	0	0	0	101	0	0	0	0	0	0	0	2	9	0	0	0	1	12	119
07:30:00	13	0	2	0	0	0	15	1	75	56	0	0	0	132	0	1	0	0	0	0	1	10	17	1	0	2	0	30	178
07:45:00	8	0	2	0	0	0	10	5	49	67	0	1	0	122	0	0	0	0	0	0	0	7	15	1	0	0	0	23	155
Total	28	0	5	0	0	0	33	7	233	215	0	1	0	456	0	1	0	0	0	0	1	21	47	2	0	2	1	73	563
08:00:00	11	0	1	0	0	0	12	4	43	46	0	0	0	93	0	0	0	0	0	0	0	2	13	2	0	1	0	18	123
08:15:00	7	0	1	0	0	0	8	3	37	40	0	0	0	80	0	0	0	0	0	0	0	3	14	0	0	0	0	17	105
08:30:00	4	1	3	0	0	0	8	0	32	33	0	1	0	66	0	0	1	0	0	0	1	1	12	0	0	0	1	14	89
08:45:00	7	1	1	0	0	0	9	0	33	29	0	0	0	62	0	0	0	0	0	0	0	1	17	1	0	1	0	20	91
Total	29	2	6	0	0	0	37	7	145	148	0	1	0	301	0	0	1	0	0	0	1	7	56	3	0	2	1	69	408
09:00:00	5	0	0	0	0	0	5	1	15	12	0	0	0	28	0	0	0	0	0	0	0	3	11	0	0	0	0	14	47
09:15:00	4	0	0	0	0	0	4	1	8	14	0	0	0	23	0	0	0	0	0	0	0	2	5	1	0	0	0	8	35
09:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	9	0	0	0	0	0	9	2	23	26	0	0	0	51	0	0	0	0	0	0	0	5	16	1	0	0	0	22	82
15:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30:00	20	2	1	0	0	0	23	0	16	5	0	0	0	21	0	0	0	0	0	0	0	2	22	0	0	0	0	24	68
15:45:00	23	0	3	0	0	0	26	1	15	7	0	0	0	23	0	1	0	0	0	0	1	0	28	0	0	0	0	28	78
Total	43	2	4	0	0	0	49	1	31	12	0	0	0	44	0	1	0	0	0	0	1	2	50	0	0	0	0	52	146

Raw Traffic Count Data

Location: Research Park Blvd & Charmany Dr
Madison, Dane Co, WI
Date: Thursday, August 10, 2017

Traffic Control: Partial Stop Control
Hours Counted: 6:30-9:30AM, 3:30-6:30PM
Counted By: I. Mullooly

All Vehicles

	Southbound							Westbound							Northbound							Eastbound							
	L	T	R	U	Ped	Bikes	Total	L	T	R	U	Ped	Bikes	Total	L	T	R	U	Ped	Bikes	Total	L	T	R	U	Ped	Bikes	Total	Int Total
16:00:00	44	0	2	0	0	0	46	0	14	9	0	0	0	23	0	0	1	0	0	0	1	3	57	0	0	0	0	60	130
16:15:00	36	0	4	0	0	0	40	1	18	8	0	0	0	27	2	0	3	0	0	0	5	0	48	1	0	0	0	49	121
16:30:00	58	0	5	0	0	0	63	1	20	7	0	0	0	28	0	0	0	0	0	0	0	2	72	0	0	0	0	74	165
16:45:00	52	0	3	0	0	0	55	0	16	15	0	0	0	31	1	0	1	0	0	0	2	3	40	0	0	0	0	43	131
Total	190	0	14	0	0	0	204	2	68	39	0	0	0	109	3	0	5	0	0	0	8	8	217	1	0	0	0	226	547
17:00:00	80	0	3	0	0	0	83	0	14	11	0	0	0	25	0	0	5	0	0	0	5	4	56	1	0	0	0	61	174
17:15:00	54	0	5	0	0	0	59	0	12	13	0	0	0	25	1	0	6	0	0	0	7	1	41	0	0	0	0	42	133
17:30:00	27	0	0	0	0	0	27	0	10	5	0	0	0	15	0	0	0	0	0	0	0	0	39	0	0	0	0	39	81
17:45:00	24	0	1	0	0	0	25	0	8	3	0	0	0	11	0	0	1	0	0	0	1	0	28	0	0	0	0	28	65
Total	185	0	9	0	0	0	194	0	44	32	0	0	0	76	1	0	12	0	0	0	13	5	164	1	0	0	0	170	453
18:00:00	18	0	2	0	0	0	20	0	10	3	0	0	0	13	0	0	1	0	0	0	1	1	19	0	0	0	0	20	54
18:15:00	9	0	2	0	0	0	11	0	7	3	0	0	0	10	0	0	1	0	0	0	1	0	10	0	0	0	0	10	32
18:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	27	0	4	0	0	0	31	0	17	6	0	0	0	23	0	0	2	0	0	0	2	1	29	0	0	0	0	30	86
Grand Total	512	4	44	0	0	0	560	24	618	519	0	2	0	1163	4	2	20	0	0	1	27	52	588	8	0	4	2	654	2404

KL Engineering [A] Better Experience

Raw Traffic Count Data

Location: Research Park Blvd & Charmany Dr
Madison, Dane Co, WI
Date: Thursday, August 10, 2017

Traffic Control: Partial Stop Control
Hours Counted: 6:30-9:30AM, 3:30-6:30PM
Counted By: I. Mullooly

Trucks

	Southbound					Westbound					Northbound					Eastbound					
	L	T	R	U	Total	L	T	R	U	Total	L	T	R	U	Total	L	T	R	U	Total	Int Total
06:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30:00	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
06:45:00	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
07:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30:00	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
07:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
08:00:00	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
08:15:00	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
08:30:00	2	0	0	0	2	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	3
08:45:00	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Total	2	0	0	0	2	0	3	2	0	5	0	0	0	0	0	0	0	0	0	0	7
09:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
09:15:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
09:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
15:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
15:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2

Raw Traffic Count Data

Location: Research Park Blvd & Charmany Dr
Madison, Dane Co, WI
Date: Thursday, August 10, 2017

Traffic Control: Partial Stop Control
Hours Counted: 6:30-9:30AM, 3:30-6:30PM
Counted By: I. Mullooly

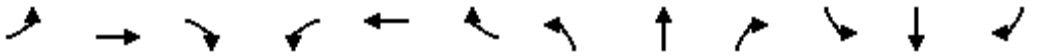
Trucks

	Southbound					Westbound					Northbound					Eastbound					
	L	T	R	U	Total	L	T	R	U	Total	L	T	R	U	Total	L	T	R	U	Total	Int Total
16:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
16:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30:00	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	3
16:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	4
17:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
17:15:00	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
17:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
18:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	3	0	2	0	5	0	7	3	0	10	0	0	0	0	0	1	4	0	0	5	20

KL Engineering [A] Better Experience

APPENDIX B

No-Build Background Traffic Analysis Output
Year 2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	1036	157	55	824	227	36	25	28	102	116	116
Future Volume (veh/h)	105	1036	157	55	824	227	36	25	28	102	116	116
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	108	1068	162	57	849	234	37	26	29	105	120	120
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	3	3	3
Cap, veh/h	395	2506	1118	338	2506	1118	133	149	166	286	157	157
Arrive On Green	0.71	0.71	0.71	0.71	0.71	0.71	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	521	3554	1585	453	3554	1585	1140	808	901	1338	851	851
Grp Volume(v), veh/h	108	1068	162	57	849	234	37	0	55	105	0	240
Grp Sat Flow(s),veh/h/ln	521	1777	1585	453	1777	1585	1140	0	1708	1338	0	1702
Q Serve(g_s), s	9.6	12.0	3.2	5.8	8.8	4.8	3.0	0.0	2.6	6.8	0.0	12.7
Cycle Q Clear(g_c), s	18.4	12.0	3.2	17.8	8.8	4.8	15.7	0.0	2.6	9.4	0.0	12.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.53	1.00		0.50
Lane Grp Cap(c), veh/h	395	2506	1118	338	2506	1118	133	0	315	286	0	314
V/C Ratio(X)	0.27	0.43	0.14	0.17	0.34	0.21	0.28	0.00	0.17	0.37	0.00	0.77
Avail Cap(c_a), veh/h	395	2506	1118	338	2506	1118	133	0	315	286	0	314
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.0	5.9	4.6	9.6	5.4	4.8	44.3	0.0	32.7	36.6	0.0	36.8
Incr Delay (d2), s/veh	1.7	0.5	0.3	1.1	0.4	0.4	1.6	0.0	0.4	1.1	0.0	11.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.0	6.4	1.6	1.1	4.7	2.4	1.6	0.0	2.0	4.1	0.0	10.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.7	6.4	4.9	10.7	5.8	5.3	45.9	0.0	33.0	37.7	0.0	48.2
LnGrp LOS	B	A	A	B	A	A	D	A	C	D	A	D
Approach Vol, veh/h		1338			1140			92			345	
Approach Delay, s/veh		6.6			5.9			38.2			45.0	
Approach LOS		A			A			D			D	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		72.0		23.0		72.0		23.0				
Change Period (Y+Rc), s		5.0		5.5		5.0		5.5				
Max Green Setting (Gmax), s		67.0		17.5		67.0		17.5				
Max Q Clear Time (g_c+I1), s		19.8		17.7		20.4		14.7				
Green Ext Time (p_c), s		13.8		0.0		18.5		0.6				

Intersection Summary												
HCM 6th Ctrl Delay			11.9									
HCM 6th LOS			B									

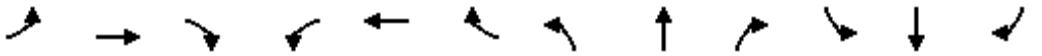
Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1134	32	0	1106	0	8
Future Vol, veh/h	1134	32	0	1106	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1233	35	0	1202	0	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	634
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	-	-	0	-	0	362
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	362
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	15.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	362	-	-	-
HCM Lane V/C Ratio	0.024	-	-	-
HCM Control Delay (s)	15.2	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	222	743	177	130	559	61	364	463	79	104	548	183
Future Volume (veh/h)	222	743	177	130	559	61	364	463	79	104	548	183
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1856	1856	1856	1870	1870	1870
Adj Flow Rate, veh/h	241	808	192	141	608	66	396	503	86	113	596	199
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	3	3	3	2	2	2
Cap, veh/h	341	1572	701	254	1123	501	445	1930	324	231	712	233
Arrive On Green	0.15	0.88	0.88	0.32	0.32	0.32	0.20	0.44	0.44	0.19	0.19	0.19
Sat Flow, veh/h	1781	3554	1585	563	3554	1585	1767	4368	732	827	3808	1243
Grp Volume(v), veh/h	241	808	192	141	608	66	396	387	202	113	531	264
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	563	1777	1585	1767	1689	1724	827	1702	1647
Q Serve(g_s), s	7.0	4.6	1.7	21.7	13.4	2.8	16.3	6.9	7.1	12.2	14.3	14.7
Cycle Q Clear(g_c), s	7.0	4.6	1.7	21.7	13.4	2.8	16.3	6.9	7.1	12.2	14.3	14.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.42	1.00		0.75
Lane Grp Cap(c), veh/h	341	1572	701	254	1123	501	445	1492	762	231	637	308
V/C Ratio(X)	0.71	0.51	0.27	0.56	0.54	0.13	0.89	0.26	0.27	0.49	0.83	0.86
Avail Cap(c_a), veh/h	341	1572	701	254	1123	501	553	1724	880	237	663	321
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.8	3.3	3.2	29.6	26.8	23.2	23.7	16.7	16.8	36.4	37.2	37.4
Incr Delay (d2), s/veh	5.6	1.2	1.0	8.5	1.9	0.5	12.4	0.1	0.3	2.3	9.2	19.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.5	2.3	1.2	6.1	9.7	2.0	12.6	4.6	4.9	4.6	10.9	12.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.4	4.5	4.1	38.1	28.7	23.7	36.0	16.8	17.0	38.6	46.4	57.3
LnGrp LOS	C	A	A	D	C	C	D	B	B	D	D	E
Approach Vol, veh/h		1241			815			985			908	
Approach Delay, s/veh		9.1			29.9			24.6			48.6	
Approach LOS		A			C			C			D	

Timer - Assigned Phs	1	2	3	4		6		8				
Phs Duration (G+Y+Rc), s	12.0	35.5	24.2	23.3		47.5		47.5				
Change Period (Y+Rc), s	5.0	5.5	5.5	5.5		5.5		5.5				
Max Green Setting (Gmax), s	7.0	23.5	24.5	18.5		35.5		48.5				
Max Q Clear Time (g_c+I1), s	9.0	23.7	18.3	16.7		6.6		9.1				
Green Ext Time (p_c), s	0.0	0.0	0.4	1.1		4.0		6.0				

Intersection Summary			
HCM 6th Ctrl Delay		26.3	
HCM 6th LOS		C	

Intersection	
Int Delay, s/veh	2.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	22	52	8	107	213
Future Vol, veh/h	5	22	52	8	107	213
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	85	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	27	64	10	132	263

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	596	69	0	0	74	0
Stage 1	69	-	-	-	-	-
Stage 2	527	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	466	994	-	-	1526	-
Stage 1	954	-	-	-	-	-
Stage 2	592	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	419	994	-	-	1526	-
Mov Cap-2 Maneuver	419	-	-	-	-	-
Stage 1	954	-	-	-	-	-
Stage 2	532	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	2.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	419	994	1526	-
HCM Lane V/C Ratio	-	-	0.015	0.027	0.087	-
HCM Control Delay (s)	-	-	13.7	8.7	7.6	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0.1	0.3	-

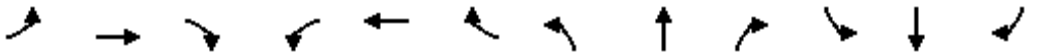
Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	14	95	906	813	43
Future Vol, veh/h	0	14	95	906	813	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	15	103	985	884	47

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	466	931	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	5.34	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	3.12	-	-	-
Pot Cap-1 Maneuver	0	465	423	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	465	423	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13	1.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	423	-	465	-	-
HCM Lane V/C Ratio	0.244	-	0.033	-	-
HCM Control Delay (s)	16.2	-	13	-	-
HCM Lane LOS	C	-	B	-	-
HCM 95th %tile Q(veh)	0.9	-	0.1	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	41	46	36	23	22	325	957	294	97	585	146
Future Volume (veh/h)	22	41	46	36	23	22	325	957	294	97	585	146
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1841	1841	1841	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	24	44	49	39	25	24	349	1029	316	104	629	157
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	4	4	4	2	2	2	3	3	3
Cap, veh/h	201	196	166	183	193	163	609	2998	920	355	3141	771
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.77	0.77	0.77	1.00	1.00	1.00
Sat Flow, veh/h	1356	1870	1585	1283	1841	1560	689	3872	1188	403	4058	996
Grp Volume(v), veh/h	24	44	49	39	25	24	349	905	440	104	522	264
Grp Sat Flow(s),veh/h/ln	1356	1870	1585	1283	1841	1560	689	1702	1656	403	1689	1676
Q Serve(g_s), s	1.6	2.0	2.7	2.7	1.2	1.3	22.0	7.8	7.8	3.9	0.0	0.0
Cycle Q Clear(g_c), s	2.7	2.0	2.7	4.8	1.2	1.3	22.0	7.8	7.8	11.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.72	1.00		0.59
Lane Grp Cap(c), veh/h	201	196	166	183	193	163	609	2635	1282	355	2614	1298
V/C Ratio(X)	0.12	0.22	0.30	0.21	0.13	0.15	0.57	0.34	0.34	0.29	0.20	0.20
Avail Cap(c_a), veh/h	273	295	250	251	291	246	609	2635	1282	355	2614	1298
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.8	39.0	39.3	41.2	38.6	38.7	4.9	3.3	3.3	0.6	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.6	1.0	0.6	0.3	0.4	3.5	0.3	0.7	2.1	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.0	1.7	2.0	1.6	1.0	0.9	4.7	3.4	3.5	0.4	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.1	39.6	40.3	41.8	38.9	39.1	8.5	3.6	4.0	2.7	0.2	0.4
LnGrp LOS	D	D	D	D	D	D	A	A	A	A	A	A
Approach Vol, veh/h		117			88			1694			890	
Approach Delay, s/veh		40.0			40.2			4.7			0.5	
Approach LOS		D			D			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		79.0		16.0		79.0		16.0				
Change Period (Y+Rc), s		5.5		6.0		5.5		6.0				
Max Green Setting (Gmax), s		68.5		15.0		68.5		15.0				
Max Q Clear Time (g_c+I1), s		24.0		4.7		13.7		6.8				
Green Ext Time (p_c), s		25.8		0.3		12.7		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			6.0									
HCM 6th LOS			A									

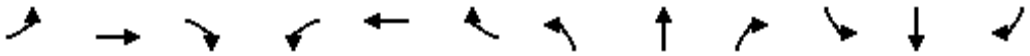
Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	34	62	4	14	227	253	0	1	0	47	0	8
Future Vol, veh/h	34	62	4	14	227	253	0	1	0	47	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	55	-	-	-	-	50	-	-	-	-	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	78	5	18	287	320	0	1	0	59	0	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	607	0	0	83	0	0	655	810	81	490	492	287
Stage 1	-	-	-	-	-	-	167	167	-	323	323	-
Stage 2	-	-	-	-	-	-	488	643	-	167	169	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	971	-	-	1514	-	-	379	314	979	489	478	752
Stage 1	-	-	-	-	-	-	835	760	-	689	650	-
Stage 2	-	-	-	-	-	-	561	468	-	835	759	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	971	-	-	1514	-	-	356	295	979	464	448	752
Mov Cap-2 Maneuver	-	-	-	-	-	-	356	295	-	464	448	-
Stage 1	-	-	-	-	-	-	798	727	-	659	638	-
Stage 2	-	-	-	-	-	-	543	459	-	797	726	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3	0.2	17.3	13.3
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	295	971	-	-	1514	-	-	464	752
HCM Lane V/C Ratio	0.004	0.044	-	-	0.012	-	-	0.128	0.013
HCM Control Delay (s)	17.3	8.9	-	-	7.4	0	-	13.9	9.9
HCM Lane LOS	C	A	-	-	A	A	-	B	A
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.4	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	993	35	33	1315	55	135	81	91	174	119	122
Future Volume (veh/h)	42	993	35	33	1315	55	135	81	91	174	119	122
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	44	1034	36	34	1370	57	141	84	95	181	124	127
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	314	2488	1110	376	2488	1110	136	156	177	193	165	169
Arrive On Green	0.70	0.70	0.70	0.93	0.93	0.93	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	375	3554	1585	527	3554	1585	1129	801	906	1205	847	867
Grp Volume(v), veh/h	44	1034	36	34	1370	57	141	0	179	181	0	251
Grp Sat Flow(s),veh/h/ln	375	1777	1585	527	1777	1585	1129	0	1707	1205	0	1714
Q Serve(g_s), s	4.7	12.3	0.7	1.6	5.5	0.3	5.7	0.0	9.4	10.1	0.0	13.8
Cycle Q Clear(g_c), s	10.2	12.3	0.7	14.0	5.5	0.3	19.5	0.0	9.4	19.5	0.0	13.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.53	1.00		0.51
Lane Grp Cap(c), veh/h	314	2488	1110	376	2488	1110	136	0	333	193	0	334
V/C Ratio(X)	0.14	0.42	0.03	0.09	0.55	0.05	1.03	0.00	0.54	0.94	0.00	0.75
Avail Cap(c_a), veh/h	314	2488	1110	376	2488	1110	136	0	333	193	0	334
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.1	6.3	4.6	3.1	1.2	1.0	48.7	0.0	36.2	46.6	0.0	38.0
Incr Delay (d2), s/veh	0.9	0.5	0.1	0.5	0.9	0.1	86.7	0.0	2.2	47.1	0.0	9.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.7	6.9	0.4	0.2	2.1	0.2	11.1	0.0	7.4	11.4	0.0	10.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.1	6.9	4.7	3.6	2.1	1.1	135.4	0.0	38.4	93.7	0.0	47.7
LnGrp LOS	A	A	A	A	A	A	F	A	D	F	A	D
Approach Vol, veh/h		1114			1461			320			432	
Approach Delay, s/veh		6.8			2.1			81.1			67.0	
Approach LOS		A			A			F			E	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		75.0		25.0		75.0		25.0				
Change Period (Y+Rc), s		5.0		5.5		5.0		5.5				
Max Green Setting (Gmax), s		70.0		19.5		70.0		19.5				
Max Q Clear Time (g_c+I1), s		16.0		21.5		14.3		21.5				
Green Ext Time (p_c), s		23.1		0.0		15.9		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			19.7									
HCM 6th LOS			B									

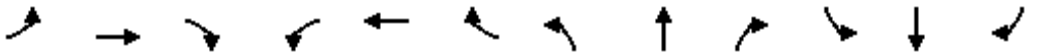
Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑		↱
Traffic Vol, veh/h	1252	6	0	1403	0	42
Future Vol, veh/h	1252	6	0	1403	0	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1304	6	0	1461	0	44

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	655
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	-	-	0	-	0	350
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	350
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	16.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	350	-	-	-
HCM Lane V/C Ratio	0.125	-	-	-
HCM Control Delay (s)	16.8	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.4	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	243	789	263	137	868	112	249	619	107	108	560	286
Future Volume (veh/h)	243	789	263	137	868	112	249	619	107	108	560	286
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	253	822	274	143	904	117	259	645	111	112	583	298
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	287	1716	765	254	1254	559	326	1789	304	232	770	358
Arrive On Green	0.16	0.97	0.97	0.35	0.35	0.35	0.04	0.13	0.13	0.23	0.23	0.23
Sat Flow, veh/h	1781	3554	1585	515	3554	1585	1781	4394	746	708	3404	1585
Grp Volume(v), veh/h	253	822	274	143	904	117	259	498	258	112	583	298
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	515	1777	1585	1781	1702	1736	708	1702	1585
Q Serve(g_s), s	8.0	1.5	0.9	24.9	22.1	5.2	10.5	13.3	13.5	14.5	16.0	17.9
Cycle Q Clear(g_c), s	8.0	1.5	0.9	24.9	22.1	5.2	10.5	13.3	13.5	14.5	16.0	17.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.43	1.00		1.00
Lane Grp Cap(c), veh/h	287	1716	765	254	1254	559	326	1386	707	232	770	358
V/C Ratio(X)	0.88	0.48	0.36	0.56	0.72	0.21	0.79	0.36	0.37	0.48	0.76	0.83
Avail Cap(c_a), veh/h	287	1716	765	254	1254	559	360	1515	773	246	834	388
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.1	0.9	0.9	29.0	28.1	22.6	28.3	31.4	31.5	35.6	36.1	36.9
Incr Delay (d2), s/veh	24.6	1.0	1.3	8.8	3.6	0.8	9.4	0.2	0.5	2.2	4.1	14.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.8	1.0	0.9	6.4	14.7	3.6	9.6	10.1	10.5	4.7	11.3	12.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.7	1.9	2.2	37.8	31.7	23.5	37.7	31.6	32.0	37.8	40.2	51.0
LnGrp LOS	D	A	A	D	C	C	D	C	C	D	D	D
Approach Vol, veh/h		1349			1164			1015			993	
Approach Delay, s/veh		10.7			31.6			33.3			43.2	
Approach LOS		B			C			C			D	

Timer - Assigned Phs	1	2	3	4		6		8				
Phs Duration (G+Y+Rc), s	13.0	40.8	18.1	28.1		53.8		46.2				
Change Period (Y+Rc), s	5.0	5.5	5.5	5.5		5.5		5.5				
Max Green Setting (Gmax), s	8.0	31.5	14.5	24.5		44.5		44.5				
Max Q Clear Time (g_c+I1), s	10.0	26.9	12.5	19.9		3.5		15.5				
Green Ext Time (p_c), s	0.0	2.4	0.1	2.7		4.3		7.5				

Intersection Summary			
HCM 6th Ctrl Delay		28.3	
HCM 6th LOS		C	

Intersection	
Int Delay, s/veh	4.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	140	157	8	85	140
Future Vol, veh/h	18	140	157	8	85	140
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	19	151	169	9	91	151

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	507	174	0	0	178	0
Stage 1	174	-	-	-	-	-
Stage 2	333	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	525	869	-	-	1398	-
Stage 1	856	-	-	-	-	-
Stage 2	726	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	488	869	-	-	1398	-
Mov Cap-2 Maneuver	488	-	-	-	-	-
Stage 1	856	-	-	-	-	-
Stage 2	674	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.3	0	2.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	488	869	1398	-
HCM Lane V/C Ratio	-	-	0.04	0.173	0.065	-
HCM Control Delay (s)	-	-	12.7	10	7.8	0
HCM Lane LOS	-	-	B	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.6	0.2	-

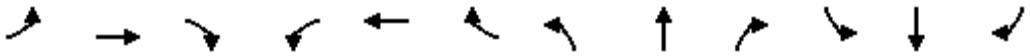
Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	84	18	975	952	9
Future Vol, veh/h	0	84	18	975	952	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	88	19	1016	992	9

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	501	1001	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	5.34	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	3.12	-	-	-
Pot Cap-1 Maneuver	0	441	391	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	441	391	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.2	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	391	-	441	-	-
HCM Lane V/C Ratio	0.048	-	0.198	-	-
HCM Control Delay (s)	14.7	-	15.2	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	0.7	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	33	356	188	43	99	49	763	38	9	997	30
Future Volume (veh/h)	131	33	356	188	43	99	49	763	38	9	997	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1841	1841	1841	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	138	35	375	198	45	104	52	803	40	9	1049	32
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	4	4	4	2	2	2	3	3	3
Cap, veh/h	358	468	396	298	460	390	403	3164	157	438	3207	98
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.63	0.63	0.63	1.00	1.00	1.00
Sat Flow, veh/h	1239	1870	1585	960	1841	1560	522	4982	247	648	5051	154
Grp Volume(v), veh/h	138	35	375	198	45	104	52	548	295	9	701	380
Grp Sat Flow(s),veh/h/ln	1239	1870	1585	960	1841	1560	522	1702	1826	648	1689	1828
Q Serve(g_s), s	9.6	1.4	23.2	19.9	1.9	5.4	4.0	7.0	7.0	0.2	0.0	0.0
Cycle Q Clear(g_c), s	11.5	1.4	23.2	21.3	1.9	5.4	4.0	7.0	7.0	7.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		0.08
Lane Grp Cap(c), veh/h	358	468	396	298	460	390	403	2162	1159	438	2144	1161
V/C Ratio(X)	0.39	0.07	0.95	0.66	0.10	0.27	0.13	0.25	0.25	0.02	0.33	0.33
Avail Cap(c_a), veh/h	358	468	396	298	460	390	403	2162	1159	438	2144	1161
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.98	0.98	0.98	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.3	28.7	36.8	36.8	28.8	30.1	7.4	7.9	7.9	0.4	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.1	31.7	5.4	0.1	0.4	0.6	0.3	0.5	0.1	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.3	1.2	18.1	8.7	1.5	3.7	0.9	4.3	4.7	0.0	0.2	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.9	28.7	68.6	42.2	28.9	30.5	8.0	8.2	8.5	0.5	0.4	0.8
LnGrp LOS	C	C	E	D	C	C	A	A	A	A	A	A
Approach Vol, veh/h		548			347			895			1090	
Approach Delay, s/veh		57.3			37.0			8.3			0.5	
Approach LOS		E			D			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		69.0		31.0		69.0		31.0				
Change Period (Y+Rc), s		5.5		6.0		5.5		6.0				
Max Green Setting (Gmax), s		63.5		25.0		63.5		25.0				
Max Q Clear Time (g_c+I1), s		9.0		25.2		9.2		23.3				
Green Ext Time (p_c), s		11.0		0.0		14.0		0.3				

Intersection Summary												
HCM 6th Ctrl Delay			18.1									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	219	1	1	67	54	2	0	13	288	0	28
Future Vol, veh/h	12	219	1	1	67	54	2	0	13	288	0	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	55	-	-	-	-	50	-	-	-	-	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	252	1	1	77	62	2	0	15	331	0	32

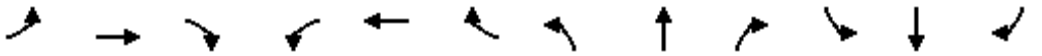
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	139	0	0	253	0	0	407	422	253	367	360	77
Stage 1	-	-	-	-	-	-	281	281	-	79	79	-
Stage 2	-	-	-	-	-	-	126	141	-	288	281	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1445	-	-	1312	-	-	555	523	786	589	567	984
Stage 1	-	-	-	-	-	-	726	678	-	930	829	-
Stage 2	-	-	-	-	-	-	878	780	-	720	678	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1445	-	-	1312	-	-	532	517	786	573	561	984
Mov Cap-2 Maneuver	-	-	-	-	-	-	532	517	-	573	561	-
Stage 1	-	-	-	-	-	-	719	671	-	921	828	-
Stage 2	-	-	-	-	-	-	848	779	-	699	671	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.1	10	18.6
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	739	1445	-	-	1312	-	-	573	984
HCM Lane V/C Ratio	0.023	0.01	-	-	0.001	-	-	0.578	0.033
HCM Control Delay (s)	10	7.5	-	-	7.7	0	-	19.5	8.8
HCM Lane LOS	B	A	-	-	A	A	-	C	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	3.7	0.1

APPENDIX C

Build Total Traffic Analysis Output
Year 2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	1065	166	55	824	227	71	25	28	102	116	116
Future Volume (veh/h)	105	1065	166	55	824	227	71	25	28	102	116	116
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	108	1098	171	57	849	234	73	26	29	105	120	120
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	3	3	3
Cap, veh/h	396	2118	945	324	2090	932	169	173	193	324	182	182
Arrive On Green	0.05	0.60	0.60	0.04	0.59	0.59	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1140	808	901	1338	851	851
Grp Volume(v), veh/h	108	1098	171	57	849	234	73	0	55	105	0	240
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1140	0	1708	1338	0	1702
Q Serve(g_s), s	2.4	18.1	4.9	1.2	12.9	7.1	6.3	0.0	2.6	6.9	0.0	12.9
Cycle Q Clear(g_c), s	2.4	18.1	4.9	1.2	12.9	7.1	19.2	0.0	2.6	9.5	0.0	12.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.53	1.00		0.50
Lane Grp Cap(c), veh/h	396	2118	945	324	2090	932	169	0	366	324	0	365
V/C Ratio(X)	0.27	0.52	0.18	0.18	0.41	0.25	0.43	0.00	0.15	0.32	0.00	0.66
Avail Cap(c_a), veh/h	480	2118	945	387	2090	932	227	0	453	392	0	451
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.1	11.8	9.2	8.7	11.1	9.9	44.7	0.0	31.9	35.8	0.0	35.9
Incr Delay (d2), s/veh	0.4	0.9	0.4	0.3	0.6	0.6	2.5	0.0	0.3	0.8	0.0	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.5	10.7	2.9	0.8	8.2	4.3	3.4	0.0	2.0	4.2	0.0	9.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.5	12.7	9.6	9.0	11.7	10.6	47.1	0.0	32.2	36.6	0.0	39.2
LnGrp LOS	A	B	A	A	B	B	D	A	C	D	A	D
Approach Vol, veh/h		1377			1140			128			345	
Approach Delay, s/veh		12.0			11.4			40.7			38.4	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.3	63.8		26.9	8.5	64.6		26.9				
Change Period (Y+Rc), s	4.5	5.0		5.5	4.5	5.0		5.5				
Max Green Setting (Gmax), s	9.5	49.0		26.5	7.5	51.0		26.5				
Max Q Clear Time (g_c+I1), s	4.4	14.9		21.2	3.2	20.1		14.9				
Green Ext Time (p_c), s	0.1	11.1		0.3	0.0	13.8		1.9				

Intersection Summary			
HCM 6th Ctrl Delay		16.0	
HCM 6th LOS		B	

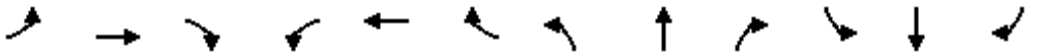
Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1134	61	0	1106	0	43
Future Vol, veh/h	1134	61	0	1106	0	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1233	66	0	1202	0	47

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	650
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	-	-	0	-	0	353
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	353
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	16.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	353	-	-	-
HCM Lane V/C Ratio	0.132	-	-	-
HCM Control Delay (s)	16.7	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.5	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	231	761	186	149	559	61	364	472	79	104	567	183
Future Volume (veh/h)	231	761	186	149	559	61	364	472	79	104	567	183
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1856	1856	1856	1870	1870	1870
Adj Flow Rate, veh/h	251	827	202	162	608	66	396	513	86	113	616	199
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	3	3	3	2	2	2
Cap, veh/h	380	1082	483	270	924	412	429	1927	317	380	750	238
Arrive On Green	0.12	0.30	0.30	0.08	0.26	0.26	0.18	0.44	0.44	0.00	0.20	0.20
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1767	4382	721	1781	3840	1215
Grp Volume(v), veh/h	251	827	202	162	608	66	396	393	206	113	545	270
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1767	1689	1726	1781	1702	1652
Q Serve(g_s), s	9.1	19.0	9.1	5.6	13.7	2.9	16.1	6.6	6.8	0.1	13.8	14.2
Cycle Q Clear(g_c), s	9.1	19.0	9.1	5.6	13.7	2.9	16.1	6.6	6.8	0.1	13.8	14.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.42	1.00		0.74
Lane Grp Cap(c), veh/h	380	1082	483	270	924	412	429	1485	759	380	665	323
V/C Ratio(X)	0.66	0.76	0.42	0.60	0.66	0.16	0.92	0.26	0.27	0.30	0.82	0.84
Avail Cap(c_a), veh/h	380	1082	483	270	924	412	429	1485	759	507	700	339
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.5	28.4	24.9	21.7	29.7	25.7	24.0	16.0	16.0	20.8	34.7	34.8
Incr Delay (d2), s/veh	3.4	5.1	2.7	3.7	3.7	0.8	25.0	0.1	0.3	0.4	7.7	16.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.0	13.1	6.6	4.4	10.2	2.1	14.3	4.4	4.7	3.0	10.4	11.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.9	33.5	27.6	25.4	33.4	26.5	49.0	16.1	16.3	21.3	42.4	51.7
LnGrp LOS	C	C	C	C	C	C	D	B	B	C	D	D
Approach Vol, veh/h		1280			836			995			928	
Approach Delay, s/veh		30.9			31.3			29.2			42.5	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	28.9	22.0	23.1	12.0	32.9	0.0	45.1
Change Period (Y+Rc), s	5.0	5.5	5.5	5.5	5.0	5.5	5.5	5.5
Max Green Setting (Gmax), s	11.0	22.5	16.5	18.5	7.0	26.5	6.5	28.5
Max Q Clear Time (g_c+I1), s	11.1	15.7	18.1	16.2	7.6	21.0	0.0	8.8
Green Ext Time (p_c), s	0.0	1.7	0.0	1.4	0.0	2.1	0.0	5.0

Intersection Summary	
HCM 6th Ctrl Delay	33.2
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	3.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	57	52	8	116	213
Future Vol, veh/h	5	57	52	8	116	213
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	85	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	70	64	10	143	263

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	618	69	0	0	74	0
Stage 1	69	-	-	-	-	-
Stage 2	549	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	453	994	-	-	1526	-
Stage 1	954	-	-	-	-	-
Stage 2	579	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	403	994	-	-	1526	-
Mov Cap-2 Maneuver	403	-	-	-	-	-
Stage 1	954	-	-	-	-	-
Stage 2	515	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	2.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	403	994	1526	-
HCM Lane V/C Ratio	-	-	0.015	0.071	0.094	-
HCM Control Delay (s)	-	-	14.1	8.9	7.6	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0.2	0.3	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	53	0	915	865	37
Future Vol, veh/h	0	53	0	915	865	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	58	0	995	940	40

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	490	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	448	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	448	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	448	-	-
HCM Lane V/C Ratio	-	0.129	-	-
HCM Control Delay (s)	-	14.2	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.4	-	-

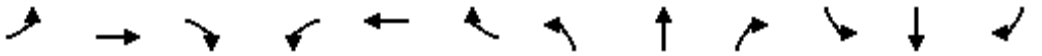
Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	32	178	915	875	43
Future Vol, veh/h	0	32	178	915	875	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	35	193	995	951	47

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	499	998	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	5.34	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	3.12	-	-	-
Pot Cap-1 Maneuver	0	442	392	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	442	392	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.8	3.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	392	-	442	-	-
HCM Lane V/C Ratio	0.494	-	0.079	-	-
HCM Control Delay (s)	22.8	-	13.8	-	-
HCM Lane LOS	C	-	B	-	-
HCM 95th %tile Q(veh)	2.6	-	0.3	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	41	64	36	23	22	344	1041	294	97	665	146
Future Volume (veh/h)	31	41	64	36	23	22	344	1041	294	97	665	146
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1841	1841	1841	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	33	44	69	39	25	24	370	1119	316	104	715	157
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	4	4	4	2	2	2	3	3	3
Cap, veh/h	154	137	116	136	135	114	632	2512	709	522	2769	601
Arrive On Green	0.07	0.07	0.07	0.07	0.07	0.07	0.20	1.00	1.00	0.12	0.66	0.66
Sat Flow, veh/h	1356	1870	1585	1259	1841	1560	1781	3956	1117	1767	4166	904
Grp Volume(v), veh/h	33	44	69	39	25	24	370	963	472	104	578	294
Grp Sat Flow(s),veh/h/ln	1356	1870	1585	1259	1841	1560	1781	1702	1669	1767	1689	1693
Q Serve(g_s), s	2.3	2.2	4.2	3.0	1.3	1.4	7.3	0.0	0.0	0.0	6.9	7.0
Cycle Q Clear(g_c), s	3.6	2.2	4.2	5.3	1.3	1.4	7.3	0.0	0.0	0.0	6.9	7.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.67	1.00		0.53
Lane Grp Cap(c), veh/h	154	137	116	136	135	114	632	2162	1060	522	2245	1125
V/C Ratio(X)	0.21	0.32	0.60	0.29	0.19	0.21	0.59	0.45	0.45	0.20	0.26	0.26
Avail Cap(c_a), veh/h	190	187	159	170	184	156	815	2162	1060	522	2245	1125
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.90	0.90	0.90	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.3	44.0	44.9	46.5	43.5	43.6	3.6	0.0	0.0	4.1	6.8	6.8
Incr Delay (d2), s/veh	0.7	1.3	4.8	1.1	0.7	0.9	0.8	0.6	1.2	0.2	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.5	1.9	3.2	1.8	1.1	1.1	2.7	0.3	0.6	1.0	4.1	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.9	45.3	49.7	47.6	44.2	44.5	4.4	0.6	1.2	4.3	7.1	7.4
LnGrp LOS	D	D	D	D	D	D	A	A	A	A	A	A
Approach Vol, veh/h		146			88			1805			976	
Approach Delay, s/veh		47.5			45.8			1.5			6.9	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	17.7	69.0		13.3	14.7	72.0		13.3				
Change Period (Y+Rc), s	5.5	* 5.5		6.0	4.5	5.5		6.0				
Max Green Setting (Gmax), s	10.5	* 64		10.0	20.5	53.5		10.0				
Max Q Clear Time (g_c+I1), s	2.0	2.0		6.2	9.3	9.0		7.3				
Green Ext Time (p_c), s	0.1	22.8		0.2	0.9	10.0		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	6.8
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

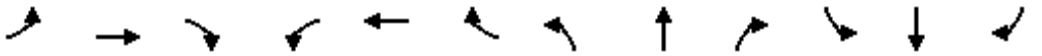
Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	62	4	14	227	272	0	1	0	74	0	17
Future Vol, veh/h	43	62	4	14	227	272	0	1	0	74	0	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	55	-	-	-	-	50	-	-	-	-	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	54	78	5	18	287	344	0	1	0	94	0	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	631	0	0	83	0	0	695	856	81	512	514	287
Stage 1	-	-	-	-	-	-	189	189	-	323	323	-
Stage 2	-	-	-	-	-	-	506	667	-	189	191	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	951	-	-	1514	-	-	357	295	979	472	464	752
Stage 1	-	-	-	-	-	-	813	744	-	689	650	-
Stage 2	-	-	-	-	-	-	549	457	-	813	742	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	951	-	-	1514	-	-	327	273	979	444	429	752
Mov Cap-2 Maneuver	-	-	-	-	-	-	327	273	-	444	429	-
Stage 1	-	-	-	-	-	-	767	702	-	650	638	-
Stage 2	-	-	-	-	-	-	523	448	-	765	700	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.6	0.2	18.2	14.3
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	273	951	-	-	1514	-	-	444	752
HCM Lane V/C Ratio	0.005	0.057	-	-	0.012	-	-	0.211	0.029
HCM Control Delay (s)	18.2	9	-	-	7.4	0	-	15.3	9.9
HCM Lane LOS	C	A	-	-	A	A	-	C	A
HCM 95th %tile Q(veh)	0	0.2	-	-	0	-	-	0.8	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	1016	43	33	1315	55	166	81	91	174	119	122
Future Volume (veh/h)	42	1016	43	33	1315	55	166	81	91	174	119	122
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	44	1058	45	34	1370	57	173	84	95	181	124	127
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	190	1923	858	295	1908	851	259	235	266	319	248	254
Arrive On Green	0.03	0.54	0.54	0.01	0.18	0.18	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1129	801	906	1205	847	867
Grp Volume(v), veh/h	44	1058	45	34	1370	57	173	0	179	181	0	251
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1129	0	1707	1205	0	1714
Q Serve(g_s), s	1.2	21.4	1.5	0.9	40.0	3.3	16.5	0.0	9.1	15.4	0.0	13.3
Cycle Q Clear(g_c), s	1.2	21.4	1.5	0.9	40.0	3.3	29.8	0.0	9.1	24.5	0.0	13.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.53	1.00		0.51
Lane Grp Cap(c), veh/h	190	1923	858	295	1908	851	259	0	500	319	0	502
V/C Ratio(X)	0.23	0.55	0.05	0.12	0.72	0.07	0.67	0.00	0.36	0.57	0.00	0.50
Avail Cap(c_a), veh/h	252	1923	858	364	1908	851	272	0	520	333	0	522
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.6	16.5	11.9	12.8	37.4	22.3	44.6	0.0	30.7	40.4	0.0	32.2
Incr Delay (d2), s/veh	0.6	1.1	0.1	0.2	2.4	0.2	6.6	0.0	0.6	2.7	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.9	13.1	0.9	0.6	26.8	2.2	8.7	0.0	6.9	8.3	0.0	9.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.2	17.6	12.0	13.0	39.8	22.5	51.2	0.0	31.3	43.1	0.0	33.3
LnGrp LOS	B	B	B	B	D	C	D	A	C	D	A	C
Approach Vol, veh/h		1147			1461			352			432	
Approach Delay, s/veh		17.5			38.5			41.1			37.4	
Approach LOS		B			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.2	64.1		37.7	7.7	64.5		37.7				
Change Period (Y+Rc), s	4.5	5.0		5.5	4.5	5.0		5.5				
Max Green Setting (Gmax), s	7.5	54.0		33.5	7.5	54.0		33.5				
Max Q Clear Time (g_c+I1), s	3.2	42.0		31.8	2.9	23.4		26.5				
Green Ext Time (p_c), s	0.0	8.7		0.4	0.0	12.2		1.7				

Intersection Summary												
HCM 6th Ctrl Delay			31.5									
HCM 6th LOS			C									

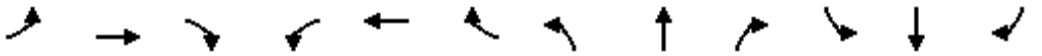
Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1252	29	0	1403	0	73
Future Vol, veh/h	1252	29	0	1403	0	73
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1304	30	0	1461	0	76

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	667
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	-	-	0	-	0	344
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	344
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	18.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	344	-	-	-
HCM Lane V/C Ratio	0.221	-	-	-
HCM Control Delay (s)	18.4	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.8	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	250	805	271	152	868	112	249	627	107	108	575	286
Future Volume (veh/h)	250	805	271	152	868	112	249	627	107	108	575	286
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	260	839	282	158	904	117	259	653	111	112	599	298
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	339	1406	627	342	1228	548	315	1732	291	247	731	340
Arrive On Green	0.23	0.79	0.79	0.07	0.35	0.35	0.04	0.13	0.13	0.00	0.21	0.21
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	4402	739	1781	3404	1585
Grp Volume(v), veh/h	260	839	282	158	904	117	259	503	261	112	599	298
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1702	1737	1781	1702	1585
Q Serve(g_s), s	10.6	10.3	6.3	5.7	24.6	5.7	12.1	14.9	15.1	0.1	18.4	20.0
Cycle Q Clear(g_c), s	10.6	10.3	6.3	5.7	24.6	5.7	12.1	14.9	15.1	0.1	18.4	20.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.43	1.00		1.00
Lane Grp Cap(c), veh/h	339	1406	627	342	1228	548	315	1339	683	247	731	340
V/C Ratio(X)	0.77	0.60	0.45	0.46	0.74	0.21	0.82	0.38	0.38	0.45	0.82	0.88
Avail Cap(c_a), veh/h	376	1406	627	371	1228	548	321	1339	683	415	758	353
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.3	8.0	7.6	17.9	31.6	25.4	33.1	35.5	35.6	35.8	41.2	41.8
Incr Delay (d2), s/veh	7.1	1.9	2.3	1.0	4.0	0.9	14.5	0.2	0.5	1.3	7.3	21.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.3	5.0	3.6	4.3	16.3	4.1	11.3	11.1	11.5	4.8	13.2	14.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.4	9.9	9.9	18.9	35.5	26.3	47.6	35.8	36.1	37.1	48.4	62.9
LnGrp LOS	C	A	A	B	D	C	D	D	D	D	D	E
Approach Vol, veh/h		1381			1179			1023			1009	
Approach Delay, s/veh		13.2			32.4			38.8			51.4	
Approach LOS		B			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.7	43.5	19.6	29.1	12.2	49.0	0.0	48.8
Change Period (Y+Rc), s	5.0	5.5	5.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	15.0	34.5	14.5	24.5	9.5	40.5	10.5	29.5
Max Q Clear Time (g_c+I1), s	12.6	26.6	14.1	22.0	7.7	12.3	0.0	17.1
Green Ext Time (p_c), s	0.1	2.9	0.0	1.6	0.1	4.4	0.0	5.1

Intersection Summary	
HCM 6th Ctrl Delay	32.2
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	4.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	171	157	8	93	140
Future Vol, veh/h	18	171	157	8	93	140
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	85	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	19	184	169	9	100	151

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	525	174	0	0	178	0
Stage 1	174	-	-	-	-	-
Stage 2	351	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	513	869	-	-	1398	-
Stage 1	856	-	-	-	-	-
Stage 2	713	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	473	869	-	-	1398	-
Mov Cap-2 Maneuver	473	-	-	-	-	-
Stage 1	856	-	-	-	-	-
Stage 2	657	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.5	0	3.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	473	869	1398	-
HCM Lane V/C Ratio	-	-	0.041	0.212	0.072	-
HCM Control Delay (s)	-	-	12.9	10.3	7.8	0
HCM Lane LOS	-	-	B	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.8	0.2	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	46	0	983	967	31
Future Vol, veh/h	0	46	0	983	967	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	50	0	1068	1051	34

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	543	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	414	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	414	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	414	-	-
HCM Lane V/C Ratio	-	0.121	-	-
HCM Control Delay (s)	-	14.9	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.4	-	-

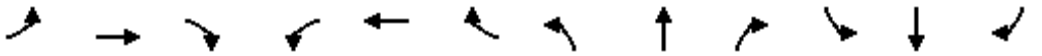
Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	100	87	983	1006	9
Future Vol, veh/h	0	100	87	983	1006	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	104	91	1024	1048	9

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	529	1057	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	5.34	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	3.12	-	-	-
Pot Cap-1 Maneuver	0	423	367	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	423	367	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.3	1.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	367	-	423	-	-
HCM Lane V/C Ratio	0.247	-	0.246	-	-
HCM Control Delay (s)	18	-	16.3	-	-
HCM Lane LOS	C	-	C	-	-
HCM 95th %tile Q(veh)	1	-	1	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	33	372	188	43	99	64	832	38	9	1067	30
Future Volume (veh/h)	139	33	372	188	43	99	64	832	38	9	1067	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1841	1841	1841	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	146	35	392	198	45	104	67	876	40	9	1123	32
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	4	4	4	2	2	2	3	3	3
Cap, veh/h	380	510	432	310	502	425	400	2858	130	430	2746	78
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.08	1.00	1.00	0.02	1.00	1.00
Sat Flow, veh/h	1239	1870	1585	945	1841	1560	1781	5005	228	1767	5062	144
Grp Volume(v), veh/h	146	35	392	198	45	104	67	595	321	9	749	406
Grp Sat Flow(s),veh/h/ln	1239	1870	1585	945	1841	1560	1781	1702	1829	1767	1689	1830
Q Serve(g_s), s	11.0	1.5	26.3	21.6	2.0	5.7	1.8	0.0	0.0	0.2	0.0	0.0
Cycle Q Clear(g_c), s	13.0	1.5	26.3	23.1	2.0	5.7	1.8	0.0	0.0	0.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		0.08
Lane Grp Cap(c), veh/h	380	510	432	310	502	425	400	1944	1045	430	1832	992
V/C Ratio(X)	0.38	0.07	0.91	0.64	0.09	0.24	0.17	0.31	0.31	0.02	0.41	0.41
Avail Cap(c_a), veh/h	482	663	562	388	653	553	451	1944	1045	531	1832	992
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.97	0.97	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.7	29.7	38.7	38.2	29.8	31.2	9.6	0.0	0.0	9.6	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.1	15.6	2.4	0.1	0.3	0.2	0.4	0.7	0.0	0.7	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.0	1.3	17.6	8.9	1.6	3.9	1.2	0.2	0.4	0.2	0.3	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.3	29.7	54.3	40.6	29.9	31.5	9.8	0.4	0.7	9.6	0.7	1.2
LnGrp LOS	D	C	D	D	C	C	A	A	A	A	A	A
Approach Vol, veh/h		573			347			983			1164	
Approach Delay, s/veh		48.0			36.5			1.1			0.9	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.7	68.3		36.0	8.9	65.2		36.0				
Change Period (Y+Rc), s	4.5	5.5		6.0	4.5	5.5		6.0				
Max Green Setting (Gmax), s	7.5	47.5		39.0	7.5	47.5		39.0				
Max Q Clear Time (g_c+I1), s	2.2	2.0		28.3	3.8	2.0		25.1				
Green Ext Time (p_c), s	0.0	10.5		1.7	0.0	14.6		1.4				

Intersection Summary			
HCM 6th Ctrl Delay		13.8	
HCM 6th LOS		B	

Intersection	
Int Delay, s/veh	10.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	219	1	1	67	69	2	0	13	311	0	36
Future Vol, veh/h	20	219	1	1	67	69	2	0	13	311	0	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	55	-	-	-	-	50	-	-	-	-	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	252	1	1	77	79	2	0	15	357	0	41

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	156	0	0	253	0	0	438	457	253	385	378	77
Stage 1	-	-	-	-	-	-	299	299	-	79	79	-
Stage 2	-	-	-	-	-	-	139	158	-	306	299	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1424	-	-	1312	-	-	529	500	786	573	554	984
Stage 1	-	-	-	-	-	-	710	666	-	930	829	-
Stage 2	-	-	-	-	-	-	864	767	-	704	666	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1424	-	-	1312	-	-	500	492	786	555	545	984
Mov Cap-2 Maneuver	-	-	-	-	-	-	500	492	-	555	545	-
Stage 1	-	-	-	-	-	-	699	655	-	915	828	-
Stage 2	-	-	-	-	-	-	827	766	-	679	655	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.1	10.1	21.1
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	730	1424	-	-	1312	-	-	555	984
HCM Lane V/C Ratio	0.024	0.016	-	-	0.001	-	-	0.644	0.042
HCM Control Delay (s)	10.1	7.6	-	-	7.7	0	-	22.5	8.8
HCM Lane LOS	B	A	-	-	A	A	-	C	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	4.6	0.1

EXHIBIT K

Elizabeth Adler

From: Dave Wolmutt (via TonicDM) <no-reply@tonicdm.com>
Sent: Monday, July 12, 2021 6:08 PM
Cc: Elizabeth Adler
Subject: URP - Element Collect Bound Areas R/FM: File Transfer - Element District Stormwater Management Plan Update

Download All Now

Element District Stormwater Management Plan Update

SmithGroup

Transmittal: File Transfer
Project: 12748.000 University Research Park - Element Collective Site Boundary - Landscape Design and Stormwater Management
From: Dave Wolmutt (Dave.Wolmutt@smithgroup.com)

44 East Mifflin Street, Suite 500

2021-07-12 23:07 UTC

Remarks:

Phil-

I am sending the updated Stormwater Management Plan via Below is a quick overview of the revisions:

Modified the Slipstream and Element Labs pond designs to maximize opportunities for infiltration. Added the stay-on calculations, per your comment below.

1. Added additional detail to pond layout and control structure drawings. All are included in the report.
2. Updated existing conditions greenway modeling per surveyed control structures. Control structures are generally 4 x 4 boxes with open grates on top and V-Notch weirs at the face.
3. Control structure details have been added.
4. The underground detention basin on the lab site has been modified. The control structure includes a low level outlet with a cap to allow draw-down. In addition, we propose adding a separate manhole with a check valve to minimize risk of backflow into the infiltration chamber from the Whitney Way storm sewer (elevations are similar).
5. The model and control structures have been "fine tuned" and checked for correlation. Summary tables have been updated to reflect the current design.
6. The overall report has been updated to include comments above and your prior comments.
7. Model parameters have been updated for consistency with current drainage conditions. E.g., the 3/29 submittal did not include the south portion of Element Way draining to the Slipstream Pond. It is now included.
8. In updating calculations, we noted that the 3/29 model improperly included Whitney Way draining directly into the greenway. This has been corrected in this update.

This transmittal includes both the updated report and a "redline" report to show specific report edits. Hopefully this will aid your review. As always, please contact Sarah or I if you have any follow-up questions or need additional information. Thanks.

Sent To:
City of Madison: PGaebler , GFries , Olivares, Daniel, Eberhardt, Megan, Ttroester

CC'ed:
Mandelgroup: Elizabeth Adler
Smocke: Csmocke
TrybaArchitects: Kathleen Fogler
Wisc: 'Paul Muench'
SmithGroup: Sarah Pasquesi

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File Name	Size (MB)
RPT 2021-0709 URP SWMP_REVISED (stamped).pdf	125.6
RPT 2021-0709 URP SWMP_redline.pdf	13.5
RPT VOL 2 - 2021-0702 URP SWMP.pdf	8.9

Access: All members of receiving organizations

This transmittal was prepared on behalf of Dave Wolmutt by the Tonic Document Management service.

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www.tonicdm.com +1.213.631.4414

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