

TRAFFIC IMPACT ANALYSIS

Grandview Commons Town Center
City of Madison
Dane County, WI

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INTRODUCTION

The proposed Grandview Commons Town Center Development is a mixed-use development on the far eastside of the City of Madison in Dane County, WI. It includes a grocery store and a public library as well as mixed commercial, office and residential. This project is located on the north side of Cottage Grove Road between North Star Drive and McLean Drive in the Grandview Commons Development in the Sprecher neighborhood. It consists of approximately 15 acres on what is currently mostly vacant land but also includes the former Doric Lodge Site. Also included as part of this study is a combined commercial/office/residential building on the northwest corner of the intersection of North Star Drive & Jupiter Drive/Sharpsburg Drive and eighteen single family homes just east of the proposed Town Center.

The purpose of this study is to determine the impact of this proposed development on the existing street system. As requested by the City of Madison Traffic Engineering Division, individual intersections evaluated include:

- Cottage Grove Road and North Star Drive
- Cottage Grove Road and McLean Drive
- Cottage Grove Road and the proposed development access points
- North Star Drive, Sharpsburg Drive and Jupiter Drive
- Sharpsburg Drive, Gemini Drive and the proposed development access
- Sharpsburg Drive and McLean Drive

The objective of this report is to analyze the existing and future roadway operations and make recommendations for geometric or traffic control improvements to help ensure the safe and efficient movement of traffic at the above named intersections, as well as evaluating the pedestrian, bicycle and transit accommodations in the area. Analyses of the street system were completed for the PM peak hour for existing conditions (2011), full build out (2017), and full build out plus fifteen years (2032). In addition to individual intersection evaluations, the roadway network was evaluated as a whole with particular attention paid to the interaction between intersections along Cottage Grove Road.

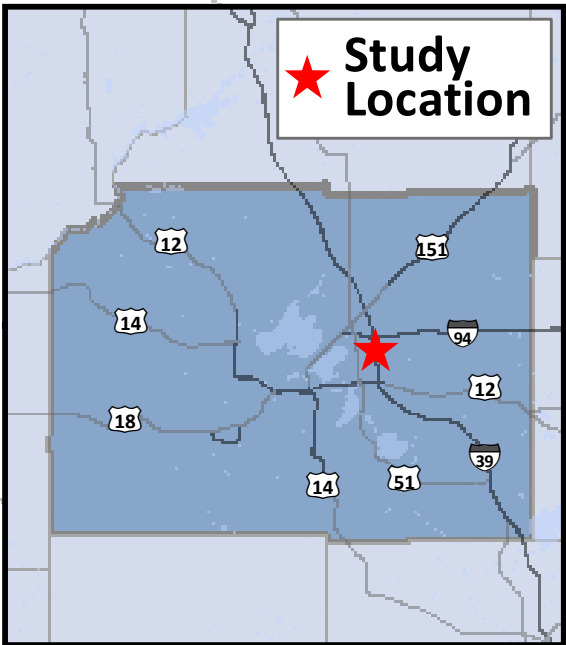
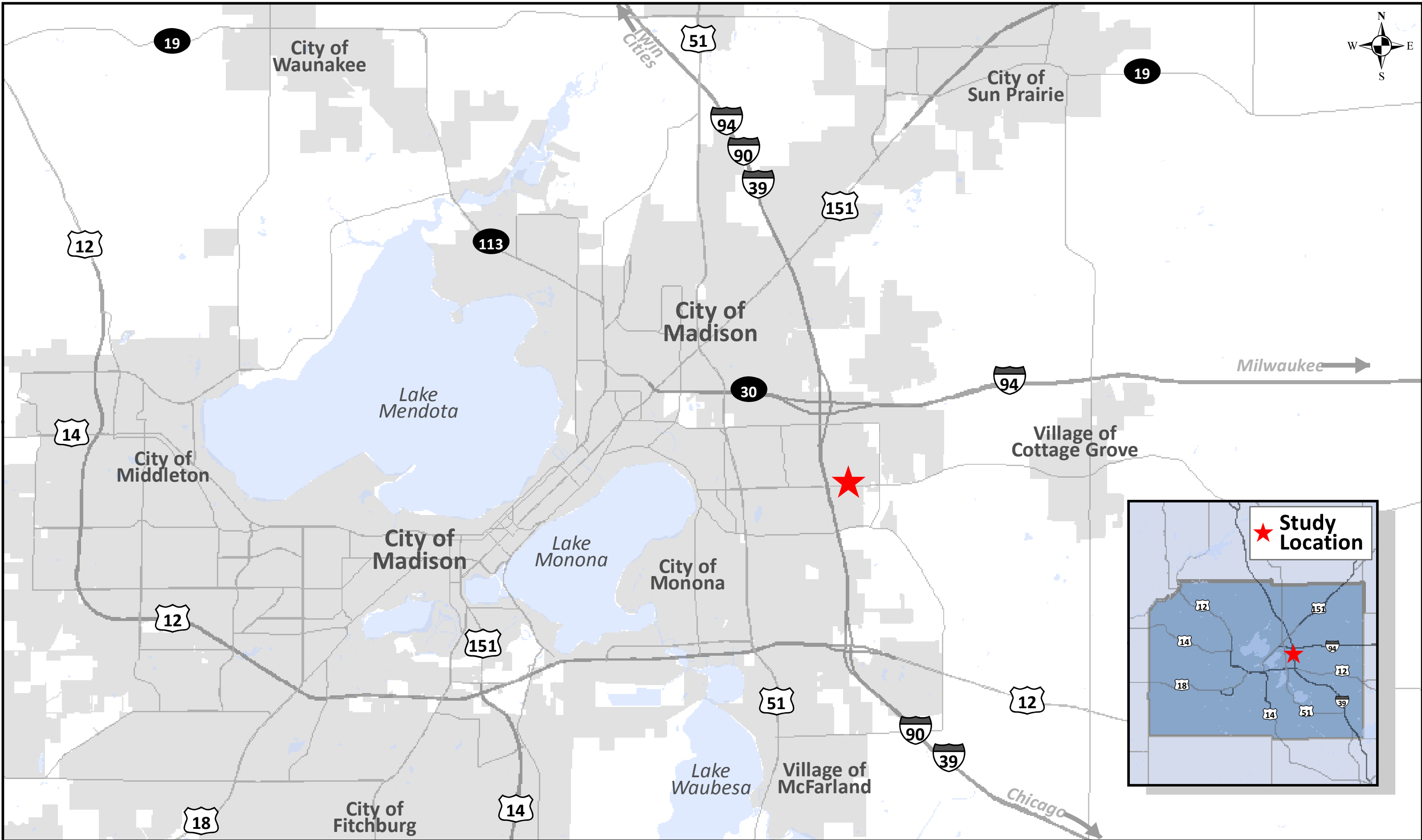
PROPOSED DEVELOPMENT

The Grandview Commons Town Center proposed development includes a 58,000 square foot (SF) Grocery Store, a 24,000 SF two-story public library and approximately 27,500 additional SF of specialty retail/small restaurants in six other buildings ranging in size from 2,500 to 9,000 first floor square feet. A combination of office and residential is proposed for the second floors of some buildings with up to seventy residential units or 8,500 square feet of office space possibly included. An additional 15,000 SF of commercial/office and 45 residential units is planned in a building to the northwest (building E-1) and 18 single family homes are planned to the east. This project is planned to be developed over five years with the grocery store anticipated to open in 2012, the Library budgeted for 2014 and the remaining parcels expected to follow based on market demand. For purposes of this study, full development was assumed by 2017. A site location map of the proposed development is included as Exhibit 1 and a Concept Plan is included as Exhibit 2.

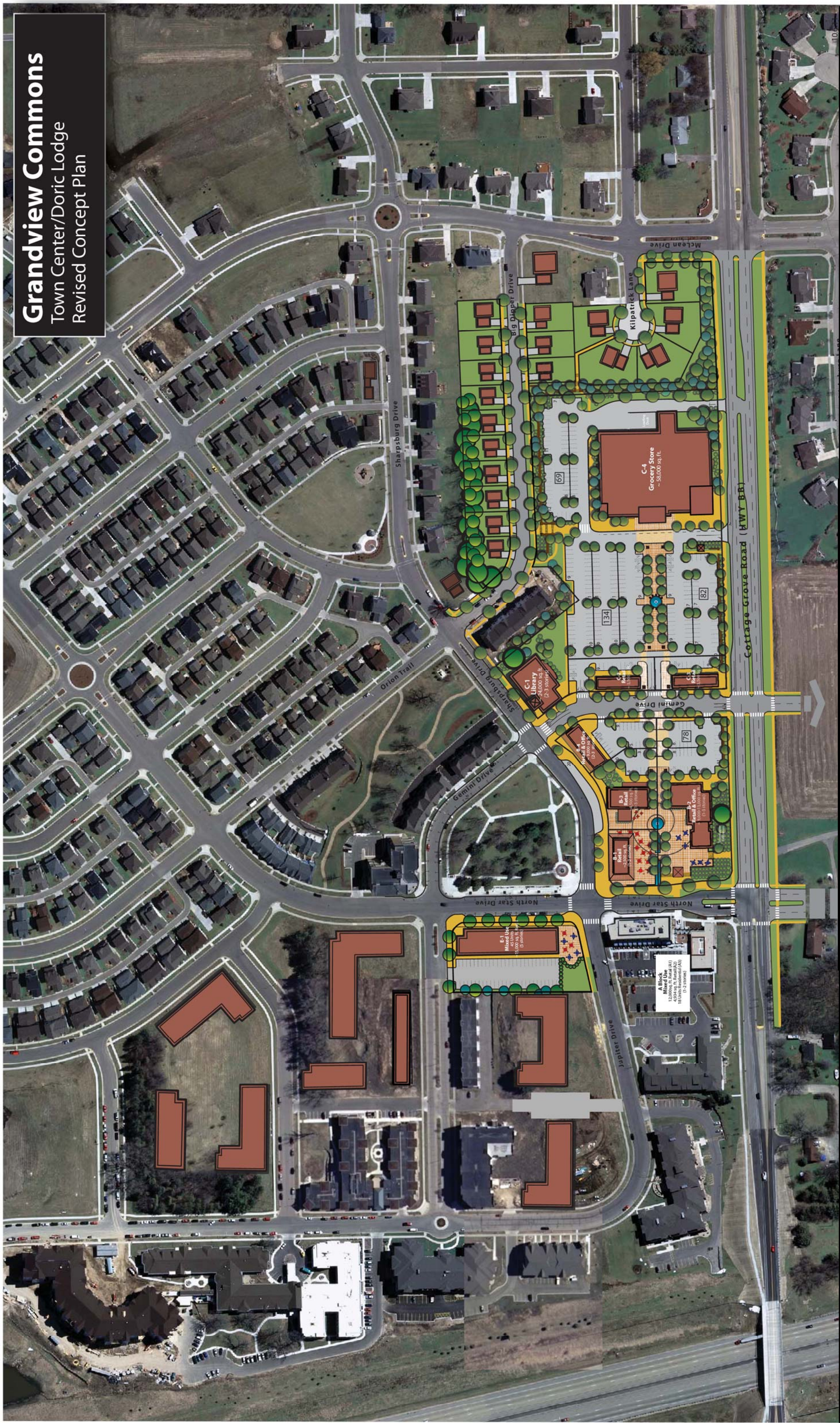
Land uses surrounding the proposed Town Center include the Grandview Commons residential development to the north and east, the Richmond Hill Residential Development and the Schoenstatt Sisters of Mary Property to the south, and Grandview Commons mixed use properties to the west. The Richmond Hill area is fully developed; however, the Grandview Commons area is not fully developed at this time. Currently there are no plans for a change in use of the Schoenstatt Sisters property to the south.

There are four access points proposed for the Town Center including three access points onto Cottage Grove Road and one access point as an extension of Gemini Drive at its intersection with Sharpsburg Drive. All three proposed access points on Cottage Grove Road, including one intended specifically for truck traffic, allow right turns in and out of the development as well as left turns into the development, but left turns out of the development would only be allowed at the west access. This access is intended to be a public street which extends from Sharpsburg Drive as an extension of Gemini Drive to Cottage Grove Road. A full median break which will allow for all turning movements on and off the extension of Gemini Drive is proposed at the intersection with Cottage Grove Road.

Access to Building E-1 will be on Gemini Drive west of North Star Drive. The single family homes will be constructed on a newly proposed connection of Big Dipper Drive between Sharpsburg Drive and McLean Drive and on Kilpatrick Lane, which is proposed to be a cul-de-sac east of McLean Drive.



Grandview Commons
Town Center/Doric Lodge
Revised Concept Plan



EXISTING CONDITIONS

Cottage Grove Road

Cottage Grove Road (CTH AB) is a primary arterial street connecting the City of Madison west of Interstate Highway 39/90 with development in Madison east of the interstate and the Village of Cottage Grove. It currently has a variable cross section with two to four lanes of travel. West of Interstate 39/90, it is a four lane divided urban roadway narrowing to two lanes at the bridge over the interstate. East of the interstate, it has a rural cross section with one travel lane in each direction and turn lanes approaching each intersection. There is intermittent sidewalk on both sides of Cottage Grove Road between the interstate and Sprecher Road, the first arterial street east of the interstate. The intersection of Sprecher Road and Cottage Grove Road is controlled by a traffic signal and is approximately 4,200 feet east of the interstate bridge. The City of Madison plans to widen Cottage Grove Road to four lanes in 2015 between the current four lane segment west of the Interstate and Sprecher Road. Expansion of the bridge over the interstate to four lanes is planned to be included as part of this proposed reconstruction. A preliminary cross section obtained from the City of Madison for this project includes an eighteen foot center median, two eleven foot travel lanes and a bicycle lane in each direction, and sidewalk on both sides of Cottage Grove Road. A ten foot multi-use path is shown on the City’s preliminary cross section as a possible alternative to sidewalk on the north side of Cottage Grove Road. Sidewalk is currently planned for the north side of Cottage Grove Road as part of the Town Center Development.

North Star Drive, Sharpsburg Drive and McLean Drive

All three of these roadways are classified as collector streets. North Star Drive is a 46 foot wide roadway while Sharpsburg Drive and McLean Road are both 36 feet wide. North Star Drive currently extends from Cottage Grove Road to the north for over one-half mile to north of Dominion Drive. Plans are for North Star Drive to continue north and eventually connect to Milwaukee Street. An extension of North Star Drive south of Cottage Grove Road is also considered a possibility if and when the property south of Cottage Grove Road develops, resulting in a possible future four legged intersection with Cottage Grove Road.

Sharpsburg Drive is an east – west residential collector street and extends from the western edge of the neighborhood as Jupiter Drive becoming Sharpsburg Drive at the intersection with North Star Drive. It then extends to the eastern edge of Grandview Commons intersecting with Sprecher Road approximately three quarter mile east of North Star Drive. From Sprecher Road it continues into the adjacent neighborhood as Wyalusing Drive.

McLean Drive is a north – south residential collector street serving the Richmond Hill residential development to the south as well as the Grandview Commons neighborhood. It extends approximately one half mile to the north from Cottage Grove Road and ends in a tee intersection with North Star Drive.

PROJECTED TRAFFIC

Background Traffic

Existing hourly counts for Cottage Grove Road, Sharpsburg Drive, McLean Drive and North Star Drive were obtained from the City of Madison. In addition, KL Engineering conducted peak hour turning movement traffic counts at the Cottage Grove Road intersections with North Star Drive and McLean Drive and the North Star Drive intersection with Sharpsburg Drive/Jupiter Drive and McLean Drive. Growth rate factors were discussed with the City of Madison and it was determined that a growth rate factor between two and four percent would be appropriate. Four percent is higher than for most locations but seemed realistic here through 2017 because Grandview Commons is not yet completed. Therefore a four percent growth rate was used to project traffic to 2017. After 2017, a two percent growth factor was used. This reflects more complete development in the area and results in the projections being more consistent with Madison MPO projections to 2035. Copies of these counts and projections are included in Appendix A.

Trip Generation

Trip generation rates were determined by using average trip generation rates obtained from the Institute of Transportation Engineers (ITE) report, Trip Generation, 8th Edition, published by the Institute of Transportation Engineers (ITE) in 2008. This publication is based on more than 4,800 trip generation studies submitted to the Institute by public agencies, developers, consulting firms, and associations. A trip is defined as a single or one-directional movement, with either the origin or destination of the trip being from the proposed development. The trip generation categories from the ITE Trip Generation Manual considered for this project were: Land Use 210, Single-Family Detached Housing; Land Use 220, Apartment; Land Use 590, Library; Land Use 710, General Office Building; Land Use 814, Specialty Retail Center; Land Use 850, Supermarket; Land Use 932, High-Turnover (Sit-Down) Restaurant; Land Use 933, Fast-Food Restaurant without Drive-Through Window; and Land Use 936, Coffee/Donut Shop without Drive-Through Window.

Trip generation rates for the individual uses were determined based on the ITE rates and combined based on location. Some of the traffic for the new development will be making multiple stops in the development and some trips will be internal to the development and will not require the use of the street system. Therefore, the total trips were reduced by 10% to 20%, based on use, to reflect these multiple-use and internal trips.

In addition, some of the trips to the retail areas will be “pass-by trips” which are defined by the ITE Handbook “as intermediate stops on the way from an origin to a primary trip destination without a route diversion. Pass-By trips are attracted from traffic passing the site on an adjacent street or roadway that offers direct access to the generator. Pass-by trips are not diverted from another roadway.” These pass-by trips will not be new trips to the surrounding streets, but they were included as new trips at the development access points. A pass-by rate of 30% was assumed for the coffee/donut shop, 20% for the Supermarket, Restaurants and Specialty Retail Center, and 10% for the Library with no pass-by rate assumed for the single family homes, apartments or offices. Both the

multi-use reduction and the pass-by adjustments are consistent with ITE standards and are as discussed and agreed upon with the City of Madison Traffic Engineering staff.

Reduction for Multi-Modal Transportation Uses

In addition to the above reductions, a 10% reduction was taken for multi-modal uses. Grandview Commons has been planned as a “new traditional neighborhood” and is being implemented as a “mixed-use walkable neighborhood.” The Town Center was conceived as a center for neighborhood activities and the smaller retail uses are planned to be tailored to neighborhood uses. Currently, with the exception of Cottage Grove Road, there are sidewalks along all streets in the area and the proposed project is planned to be pedestrian friendly with a main sidewalk traversing the parking lot and a pedestrian plaza at the west end near the proposed specialty retail uses. Sidewalk on Cottage Grove Road will be completed as part of this project or the reconstruction project. Bicycle lanes on both sides of Cottage Grove Road are planned as part of the Cottage Grove Road reconstruction scheduled for 2015. The neighborhood roadways in the area are bicycle friendly. The combination of these factors and the City of Madison’s stated goals of increased use of alternative modes of transportation indicate that a 10% reduction for multi-modal uses is reasonable and these reductions were agreed upon with the City of Madison Traffic Engineering staff.

A summary of the trip generation for this development, for an average daily weekday, PM peak hour, and AM peak hour; including the reduction for combined trips, pass-by trips, and multi-modal trips is included on the following pages. Because traffic was distributed to the street system differently for the different development areas, the Town Center, Building E-1, and the single family homes are categorized on the trip generation sheet.

After the above reductions are applied, the proposed development is anticipated to generate a total of 8,705 trips on an average weekday with 870 of these trips in the PM peak hour and 509 in the AM peak hour. Approximately 1,566 of the daily trips are anticipated to be “pass-by” trips and approximately 7,139 are anticipated to be “new” trips. One hundred fifty of the PM peak hour trips are anticipated to be “pass-by” trips and approximately 720 of the PM peak hour trips are anticipated to be “new” trips. In the AM peak hour, approximately 96 of the trips are anticipated to be “pass-by” trips and approximately 412 are anticipated to be new trips.

**GRANDVIEW COMMONS
TRIP GENERATION SUMMARY
AVERAGE DAILY TRAFFIC**

| Buildings B and C Block | | | | | | | | | | | | | | |
|--------------------------------------|----------|---|-----------------------------------|------|-----------------|-------------------------------|-----------------------------|--------------------------|--------------|--------------|---------------------|---------------|--------------------------|----------------------------|
| Building Number | Land Use | Independent Variable | Ind. Variable Full Built Out 2017 | Rate | Number of Trips | Multi-Use Alt. Mode Reduction | Total Trips After Reduction | Split Entering/Exiting % | No. Entering | No. Exiting | Pass-By Reduction % | Pass-By Trips | Pass-By Entering/Exiting | New Trips Entering/Exiting |
| B-1 | 814 | Specialty Retail Center | 1,000 SF | 2.5 | 44.32 | 111 | 80 | 50% | 40 | 40 | 20% | 16 | 8 | 32 |
| B-2 | 814 | Specialty Retail Center | 1,000 SF | 9 | 44.32 | 399 | 287 | 50% | 144 | 144 | 20% | 57 | 29 | 115 |
| B-2 | 710 | General Office Building | 1,000 SF | 4 | 11.01 | 44 | 32 | 50% | 16 | 16 | 0% | 0 | 0 | 16 |
| B-3 | 936 | Coffee/Donut Shop without Drive-Through Window | 1,000 SF | 1 | 818.58 | 819 | 589 | 50% | 295 | 295 | 30% | 177 | 88 | 206 |
| B-3 | 932 | High-Turnover (Sit-Down) Restaurant | 1,000 SF | 3.5 | 127.15 | 445 | 320 | 50% | 160 | 160 | 20% | 64 | 32 | 128 |
| B-3 | 220 | Apartment | Dwelling Units | 20 | 6.65 | 133 | 108 | 50% | 54 | 54 | 0% | 0 | 0 | 54 |
| B-4 | 814 | Specialty Retail Center | 1,000 SF | 4.5 | 44.32 | 199 | 144 | 50% | 72 | 72 | 20% | 29 | 14 | 57 |
| B-4 | 220 | Apartment | Dwelling Units | 20 | 6.65 | 133 | 108 | 50% | 54 | 54 | 0% | 0 | 0 | 54 |
| C-1 | 590 | Library | 1,000 SF | 24 | 56.24 | 1,350 | 972 | 50% | 486 | 486 | 10% | 97 | 49 | 437 |
| C-2 | 933 | Fast-Food Restaurant without Drive-Through Window | 1,000 SF | 3.5 | 250.00 | 875 | 630 | 50% | 315 | 315 | 20% | 126 | 63 | 252 |
| C-3 | 814 | Specialty Retail Center | 1,000 SF | 3.5 | 44.32 | 155 | 112 | 50% | 56 | 56 | 20% | 22 | 11 | 45 |
| C-4 | 850 | Supermarket | 1,000 SF | 58 | 102.24 | 5,930 | 4,270 | 50% | 2,135 | 2,135 | 20% | 854 | 427 | 1,708 |
| SUBTOTAL | | | | | | | | | | 3,825 | 3,825 | 1,442 | 721 | 3,104 |
| TOTAL NEW TRIPS (Town Center) | | | | | | | | | | 6,208 | | | | |

| Building E-1 (Northwest corner of North Star Drive and Jupiter Drive) | | | | | | | | | | | | | | |
|--|----------|-------------------------------------|-----------------------------------|------|-----------------|-------------------------------|-----------------------------|--------------------------|--------------|-------------|---------------------|---------------|--------------------------|----------------------------|
| Building Number | Land Use | Independent Variable | Ind. Variable Full Built Out 2017 | Rate | Number of Trips | Multi-Use Alt. Mode Reduction | Total Trips After Reduction | Split Entering/Exiting % | No. Entering | No. Exiting | Pass-By Reduction % | Pass-By Trips | Pass-By Entering/Exiting | New Trips Entering/Exiting |
| E-1 | 814 | Specialty Retail Center | 1,000 SF | 5 | 44.32 | 222 | 160 | 50% | 80 | 80 | 20% | 32 | 16 | 64 |
| E-1 | 710 | General Office Building | 1,000 SF | 5 | 11.01 | 55 | 40 | 50% | 20 | 20 | 0% | 0 | 0 | 20 |
| E-1 | 932 | High-Turnover (Sit-Down) Restaurant | 1,000 SF | 5 | 127.15 | 636 | 458 | 50% | 229 | 229 | 20% | 92 | 46 | 183 |
| E-1 | 220 | Apartment | Dwelling Units | 45 | 6.65 | 299 | 242 | 50% | 121 | 121 | 0% | 0 | 0 | 121 |
| SUBTOTAL | | | | | | | | | | 450 | 450 | 123 | 62 | 388 |
| TOTAL NEW TRIPS (Building E-1) | | | | | | | | | | 776 | | | | |

| Single Family Homes (Big Dipper Drive & Kilpatrick Lane) | | | | | | | | | | | | | | |
|---|----------|--------------------------------|-----------------------------------|------|-----------------|-------------------------------|-----------------------------|--------------------------|--------------|-------------|---------------------|---------------|--------------------------|----------------------------|
| Building Number | Land Use | Independent Variable | Ind. Variable Full Built Out 2017 | Rate | Number of Trips | Multi-Use Alt. Mode Reduction | Total Trips After Reduction | Split Entering/Exiting % | No. Entering | No. Exiting | Pass-By Reduction % | Pass-By Trips | Pass-By Entering/Exiting | New Trips Entering/Exiting |
| N/A | 210 | Single-Family Detached Housing | Dwelling Units | 18 | 9.57 | 172 | 155 | 50% | 78 | 78 | 0% | 0 | 0 | 78 |
| TOTAL NEW TRIPS (Single Family Homes) | | | | | | | | | | 155 | | | | |

| Total Trips After Reductions | No. Entering | No. Exiting | Pass-By Reduction No. | Pass-By Entering/Exiting | New Trips Non Pass-By Entering/Exiting |
|------------------------------|--------------|-------------|-----------------------|--------------------------|--|
| 8,705 | 4,352 | 4,352 | 1,566 | 783 | 3,570 |
| TOTAL NEW TRIPS | | | | | 7,139 |

**Total Trips
All Buildings and Uses
Average Daily Traffic**

**GRANDVIEW COMMONS
TRIP GENERATION SUMMARY
AM PEAK HOUR**

| Buildings B and C Block | | | | | | | | | | | | | | |
|---------------------------------------|----------|---|-----------------------------------|------|-----------------|-------------------------------|------------------------------|--------------------------|--------------|-------------|---------------------|---------------|--------------------------|----------------------------|
| Building Number | Land Use | Ind. Variable | Ind. Variable Full Build Out 2017 | Rate | Number of Trips | Multi-Use Alt. Mode Reduction | Total Trips After Reductions | Split Entering/Exiting % | No. Entering | No. Exiting | Pass-By Reduction % | Pass-By Trips | Pass-By Entering/Exiting | New Trips Entering/Exiting |
| B-1 | 931 | Specialty Retail Center | 1,000 SF | 2.5 | 3 | 20% | 2 | 61% | 1 | 1 | 20% | 0 | 0 | 1 |
| B-2 | 814 | Specialty Retail Center | 1,000 SF | 1.03 | 9 | 20% | 7 | 61% | 4 | 3 | 20% | 1 | 1 | 3 |
| B-2 | 710 | General Office Building | 1,000 SF | 4 | 6 | 20% | 4 | 88% | 4 | 1 | 0% | 0 | 0 | 4 |
| B-3 | 936 | Coffee/Donut Shop without Drive-Through Window | 1,000 SF | 1 | 117.23 | 20% | 84 | 51% | 43 | 41 | 30% | 25 | 13 | 30 |
| B-3 | 932 | High-Turnover (Sit-Down) Restaurant | 1,000 SF | 3.5 | 40 | 20% | 29 | 52% | 15 | 14 | 20% | 6 | 3 | 12 |
| B-3 | 220 | Apartment | Dwelling Units | 20 | 10 | 10% | 8 | 20% | 7 | 7 | 0% | 0 | 0 | 2 |
| B-4 | 814 | Specialty Retail Center | 1,000 SF | 4.5 | 5 | 20% | 3 | 61% | 2 | 1 | 20% | 1 | 0 | 2 |
| B-4 | 220 | Apartment | Dwelling Units | 20 | 10 | 10% | 8 | 20% | 7 | 7 | 0% | 0 | 0 | 2 |
| C-1 | 590 | Library | 1,000 SF | 24 | 25 | 20% | 18 | 71% | 13 | 5 | 10% | 2 | 1 | 12 |
| C-2 | 933 | Fast-Food Restaurant without Drive-Through Window | 1,000 SF | 3.5 | 154 | 20% | 111 | 60% | 66 | 44 | 20% | 22 | 11 | 55 |
| C-3 | 814 | Specialty Retail Center | 1,000 SF | 3.5 | 4 | 20% | 3 | 61% | 2 | 1 | 20% | 1 | 0 | 1 |
| C-4 | 850 | Supermarket | 1,000 SF | 3.59 | 208 | 20% | 150 | 61% | 91 | 58 | 20% | 30 | 15 | 76 |
| SUBTOTAL | | | | | 591 | | 427 | | 245 | 183 | | 88 | 44 | 201 |
| TOTAL NEW TRIPS (AM Peak Hour) | | | | | | | | | | | | | | 339 |

| Building E-1 (Northwest corner of North Star Drive and Jupiter Drive) | | | | | | | | | | | | | | |
|--|----------|-------------------------------------|-----------------------------------|------|-----------------|-------------------------------|------------------------------|--------------------------|--------------|-------------|---------------------|---------------|--------------------------|----------------------------|
| Building Number | Land Use | Ind. Variable | Ind. Variable Full Build Out 2017 | Rate | Number of Trips | Multi-Use Alt. Mode Reduction | Total Trips After Reductions | Split Entering/Exiting % | No. Entering | No. Exiting | Pass-By Reduction % | Pass-By Trips | Pass-By Entering/Exiting | New Trips Entering/Exiting |
| E-1 | 814 | Specialty Retail Center | 1,000 SF | 5 | 5 | 20% | 4 | 61% | 2 | 1 | 20% | 1 | 0 | 2 |
| E-1 | 710 | General Office Building | 1,000 SF | 5 | 8 | 20% | 6 | 88% | 5 | 1 | 0% | 0 | 0 | 5 |
| E-1 | 932 | High-Turnover (Sit-Down) Restaurant | 1,000 SF | 5 | 58 | 20% | 41 | 52% | 22 | 20 | 20% | 8 | 4 | 17 |
| E-1 | 220 | Apartment | Dwelling Units | 45 | 23 | 10% | 19 | 20% | 4 | 15 | 0% | 0 | 0 | 4 |
| SUBTOTAL | | | | | 93 | | 69 | | 32 | 37 | | 9 | 5 | 28 |
| TOTAL NEW TRIPS (Building E-1) | | | | | | | | | | | | | | 60 |

| Single Family Homes (Big Dipper Drive & Kilpatrick Lane) | | | | | | | | | | | | | | |
|---|----------|--------------------------------|-----------------------------------|------|-----------------|-------------------------------|------------------------------|--------------------------|--------------|-------------|---------------------|---------------|--------------------------|----------------------------|
| Building Number | Land Use | Ind. Variable | Ind. Variable Full Build Out 2017 | Rate | Number of Trips | Multi-Use Alt. Mode Reduction | Total Trips After Reductions | Split Entering/Exiting % | No. Entering | No. Exiting | Pass-By Reduction % | Pass-By Trips | Pass-By Entering/Exiting | New Trips Entering/Exiting |
| N/A | 210 | Single-Family Detached Housing | Dwelling Units | 18 | 14 | | 12 | 25% | 3 | 9 | 0% | 0 | 0 | 3 |
| TOTAL NEW TRIPS (Single Family Homes) | | | | | | | | | | | | | | 12 |

**Total Trips
All Buildings and Uses
AM Peak Hour**

| Total Trips After Reductions | No. Entering | No. Exiting | Pass-By Reduction No. | Pass-By Entering | Pass-By Exiting | New Trips Entering | New Trips Exiting | |
|------------------------------|--------------|-------------|-----------------------|------------------|-----------------|--------------------|-------------------|------------|
| 509 | 280 | 229 | 97 | 48 | 48 | 232 | 180 | |
| TOTAL NEW TRIPS | | | | | | | | 412 |

GRANDVIEW COMMONS
TRIP GENERATION SUMMARY
PM PEAK HOUR

| Buildings B and C Block | | | | | | | | | | | | | | | | | | | | |
|---------------------------------------|----------|---|-----------------------------------|------|-----------------|-------------------------------|------------------------------|--------------------------|-----------------|--------------|-------------|---------------------|----------------------|------------------|-----------------|--------------------|-------------------|-----------|------------|------------|
| Building Number | Land Use | Ind. Variable | Ind. Variable Full Built Out 2017 | Rate | Number of Trips | Multi-Use Alt. Mode Reduction | Total Trips After Reductions | Split Entering/Exiting % | Split Exiting % | No. Entering | No. Exiting | Pass-By Reduction % | Pass-By Trips | Pass-By Entering | Pass-By Exiting | New Trips Entering | New Trips Exiting | | | |
| B-1 | 814 | Specialty Retail Center | 1,000 SF | 2.5 | 7.49 | 19 | 20% | 13 | 44% | 6 | 8 | 20% | 3 | 1 | 1 | 5 | 6 | | | |
| B-2 | 814 | Specialty Retail Center | 1,000 SF | 9 | 2.71 | 24 | 20% | 18 | 44% | 8 | 10 | 20% | 4 | 2 | 2 | 6 | 8 | | | |
| B-2 | 710 | General Office Building | 1,000 SF | 4 | 1.49 | 6 | 20% | 4 | 17% | 1 | 4 | 0% | 0 | 0 | 0 | 1 | 4 | | | |
| B-3 | 936 | Coffee/Donut Shop without Drive-Through Window | 1,000 SF | 1 | 40.75 | 41 | 20% | 29 | 50% | 15 | 15 | 30% | 9 | 4 | 4 | 10 | 10 | | | |
| B-3 | 932 | High-Turnover (Sit-Down) Restaurant | 1,000 SF | 3.5 | 11.15 | 39 | 20% | 28 | 59% | 17 | 12 | 20% | 6 | 3 | 3 | 14 | 9 | | | |
| B-3 | 220 | Apartment | Dwelling Units | 20 | 0.62 | 12 | 10% | 10 | 65% | 7 | 4 | 0% | 0 | 0 | 0 | 7 | 4 | | | |
| B-4 | 814 | Specialty Retail Center | 1,000 SF | 4.5 | 2.71 | 12 | 20% | 9 | 44% | 4 | 5 | 20% | 2 | 1 | 1 | 3 | 4 | | | |
| B-4 | 220 | Apartment | Dwelling Units | 20 | 0.62 | 12 | 10% | 10 | 65% | 7 | 4 | 0% | 0 | 0 | 0 | 7 | 4 | | | |
| C-1 | 590 | Library | 1,000 SF | 24 | 7.30 | 175 | 20% | 126 | 48% | 61 | 66 | 10% | 13 | 6 | 6 | 54 | 59 | | | |
| C-2 | 933 | Fast-Food Restaurant without Drive-Through Window | 1,000 SF | 3.5 | 26.15 | 92 | 20% | 66 | 51% | 34 | 32 | 20% | 13 | 7 | 7 | 27 | 26 | | | |
| C-3 | 814 | Specialty Retail Center | 1,000 SF | 3.5 | 2.71 | 9 | 20% | 7 | 44% | 3 | 4 | 20% | 1 | 1 | 1 | 2 | 3 | | | |
| C-4 | 850 | Supermarket | 1,000 SF | 58 | 10.50 | 609 | 20% | 438 | 51% | 224 | 215 | 20% | 88 | 44 | 44 | 180 | 171 | | | |
| SUBTOTAL | | | | | | | | | | | | | 1,051 | 759 | 383 | 376 | 69 | 69 | 315 | 307 |
| TOTAL NEW TRIPS (PM Peak Hour) | | | | | | | | | | | | | 622 | | | | | | | |
| | | | | | | | | | | | | | Pass-By Trips | | | | | | | |
| | | | | | | | | | | | | | 137 | | | | | | | |

| Building E-1 (Northwest corner of North Star Drive and Jupiter Drive) | | | | | | | | | | | | | | | | | | | | |
|--|----------|-------------------------------------|-----------------------------------|------|-----------------|-------------------------------|------------------------------|--------------------------|-----------------|--------------|-------------|---------------------|---------------|------------------|-----------------|--------------------|-------------------|----------|-----------|-----------|
| Building Number | Land Use | Ind. Variable | Ind. Variable Full Built Out 2017 | Rate | Number of Trips | Multi-Use Alt. Mode Reduction | Total Trips After Reductions | Split Entering/Exiting % | Split Exiting % | No. Entering | No. Exiting | Pass-By Reduction % | Pass-By Trips | Pass-By Entering | Pass-By Exiting | New Trips Entering | New Trips Exiting | | | |
| E-1 | 814 | Specialty Retail Center | 1,000 SF | 5 | 7.49 | 37 | 20% | 27 | 61% | 16 | 11 | 20% | 5 | 3 | 3 | 14 | 8 | | | |
| E-1 | 710 | General Office Building | 1,000 SF | 5 | 1.49 | 7 | 20% | 5 | 88% | 5 | 1 | 0% | 0 | 0 | 0 | 5 | 1 | | | |
| E-1 | 932 | High-Turnover (Sit-Down) Restaurant | 1,000 SF | 5 | 11.15 | 56 | 20% | 40 | 52% | 21 | 19 | 20% | 8 | 4 | 4 | 17 | 15 | | | |
| E-1 | 220 | Apartment | Dwelling Units | 45 | 0.62 | 28 | 10% | 23 | 20% | 5 | 18 | 0% | 0 | 0 | 0 | 5 | 18 | | | |
| SUBTOTAL | | | | | | | | | | | | | 129 | 95 | 47 | 49 | 7 | 7 | 40 | 42 |
| TOTAL NEW TRIPS (Building E-1) | | | | | | | | | | | | | 82 | | | | | | | |

| Single Family Homes (Big Dipper Drive & Kilpatrick Lane) | | | | | | | | | | | | | | | | | |
|---|----------|--------------------------------|-----------------------------------|------|-----------------|-------------------------------|------------------------------|--------------------------|-----------------|--------------|-------------|---------------------|---------------|------------------|-----------------|--------------------|-------------------|
| Building Number | Land Use | Ind. Variable | Ind. Variable Full Built Out 2017 | Rate | Number of Trips | Multi-Use Alt. Mode Reduction | Total Trips After Reductions | Split Entering/Exiting % | Split Exiting % | No. Entering | No. Exiting | Pass-By Reduction % | Pass-By Trips | Pass-By Entering | Pass-By Exiting | New Trips Entering | New Trips Exiting |
| N/A | 210 | Single-Family Detached Housing | Dwelling Units | 18 | 1.01 | 18 | 10% | 16 | 63% | 10 | 6 | 0% | 0 | 0 | 0 | 10 | 6 |
| TOTAL NEW TRIPS (Single Family Homes) | | | | | | | | | | | | | 16 | | | | |

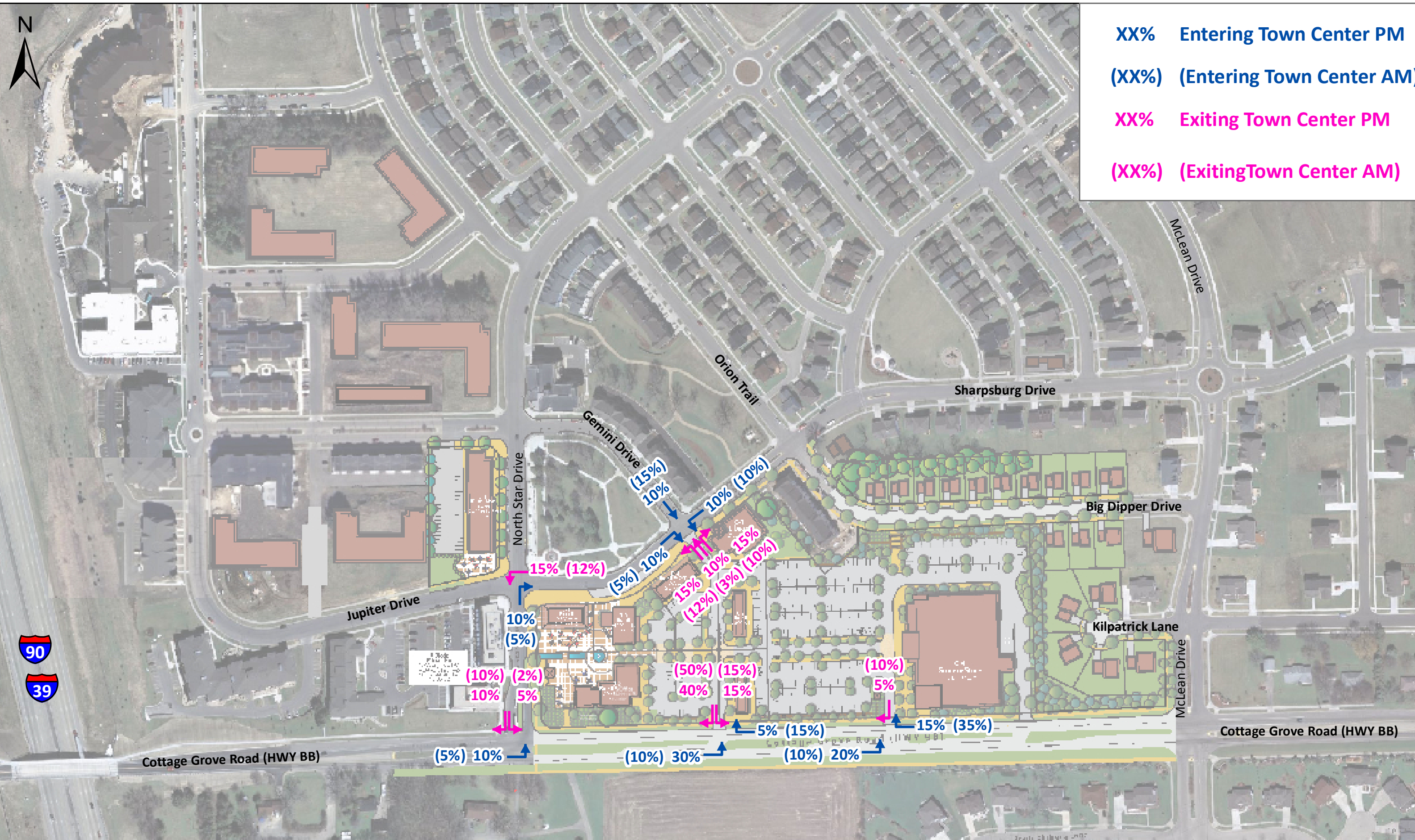
| Total Trips All Buildings and Uses PM Peak Hour | | | | | | | | | | | | | |
|--|--------------|-------------|------------------------|-----------------------|------------------------|-----------------------|--------------------|-------------------|--|--|--|--|--|
| Total Trips After Reductions | No. Entering | No. Exiting | Pass-By Trips Entering | Pass-By Trips Exiting | Pass-By Trips Entering | Pass-By Trips Exiting | New Trips Entering | New Trips Exiting | | | | | |
| 870 | 440 | 430 | 151 | 75 | 75 | 75 | 365 | 355 | | | | | |
| TOTAL NEW TRIPS | | | | 720 | | | | | | | | | |

Development Access and Trip Distribution

Access to the proposed Grandview Commons Town Center/Doric Lodge development will be provided by three access points along Cottage Grove Road as well as an access point which will be constructed as the south leg of the Sharpsburg Drive – Gemini Drive intersection.

All three proposed access points along Cottage Grove Road would accommodate right turns in and out of the development as well as left turns into the development. The west median break is proposed to be a full median break with access to a public street into the development and is proposed to connect to Gemini Drive at its intersection with Sharpsburg Drive on the north end of the project. Further east, a partial median break is proposed which would access the front of the grocery store. The eastern most access point is primarily intended to serve trucks servicing the grocery store. A fourth access point is proposed for the intersection of Sharpsburg Drive and Gemini Drive intersection.

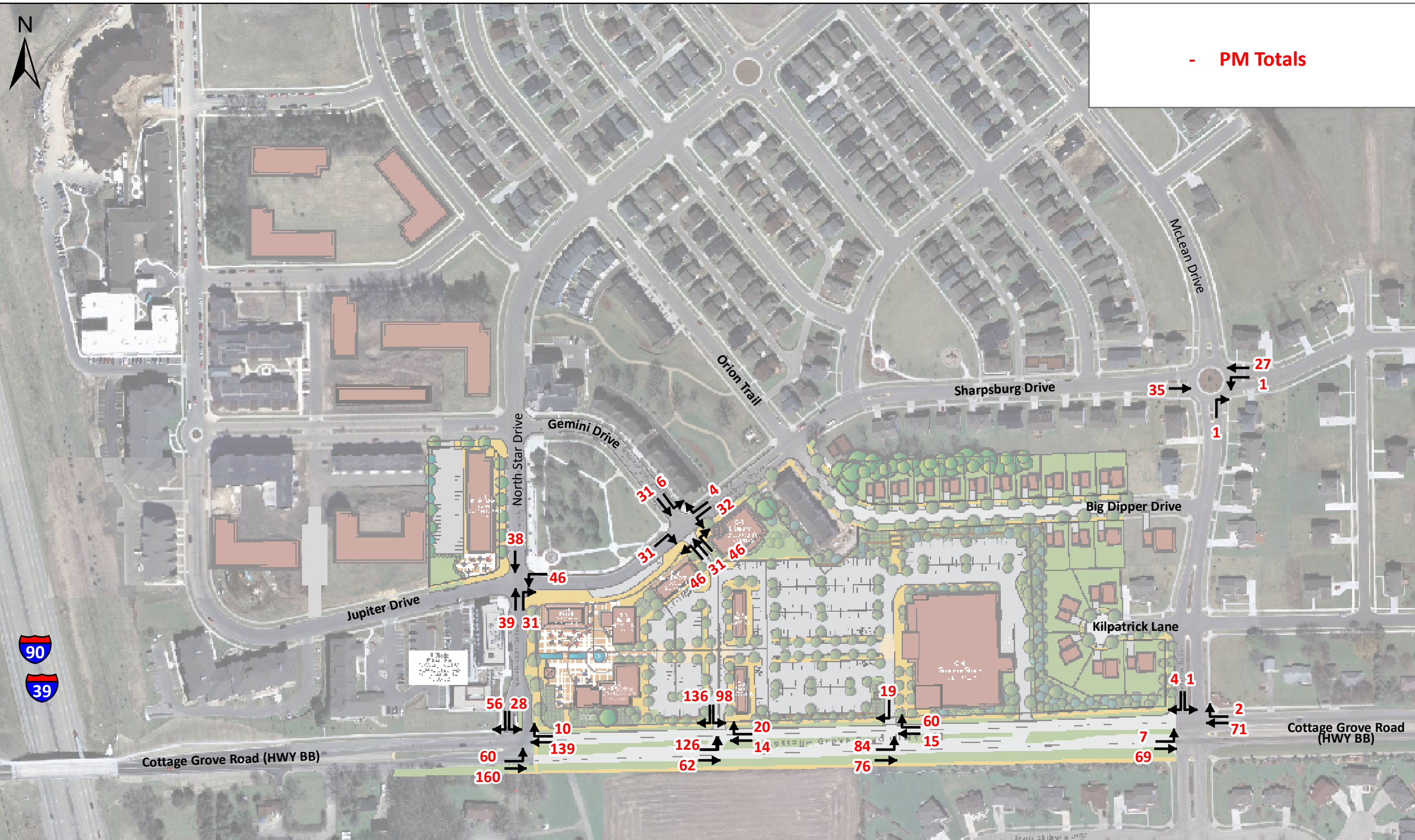
Based on street system geometrics, existing travel patterns, and engineering judgment, trips were assigned to the proposed access points and the existing roadway system. Exhibit 3 summarizes trip distribution percentages during both peak hours. Exhibit 4 breaks down the PM peak hour trips by new trips and pass-by trips and Exhibit 5 summarizes total trips during the PM peak hour for: background traffic in 2017; total traffic, including development traffic, in 2017; and total traffic, including development traffic, in 2032. Trip distribution percentages were reviewed and adjusted based on discussions with the developer and City staff.

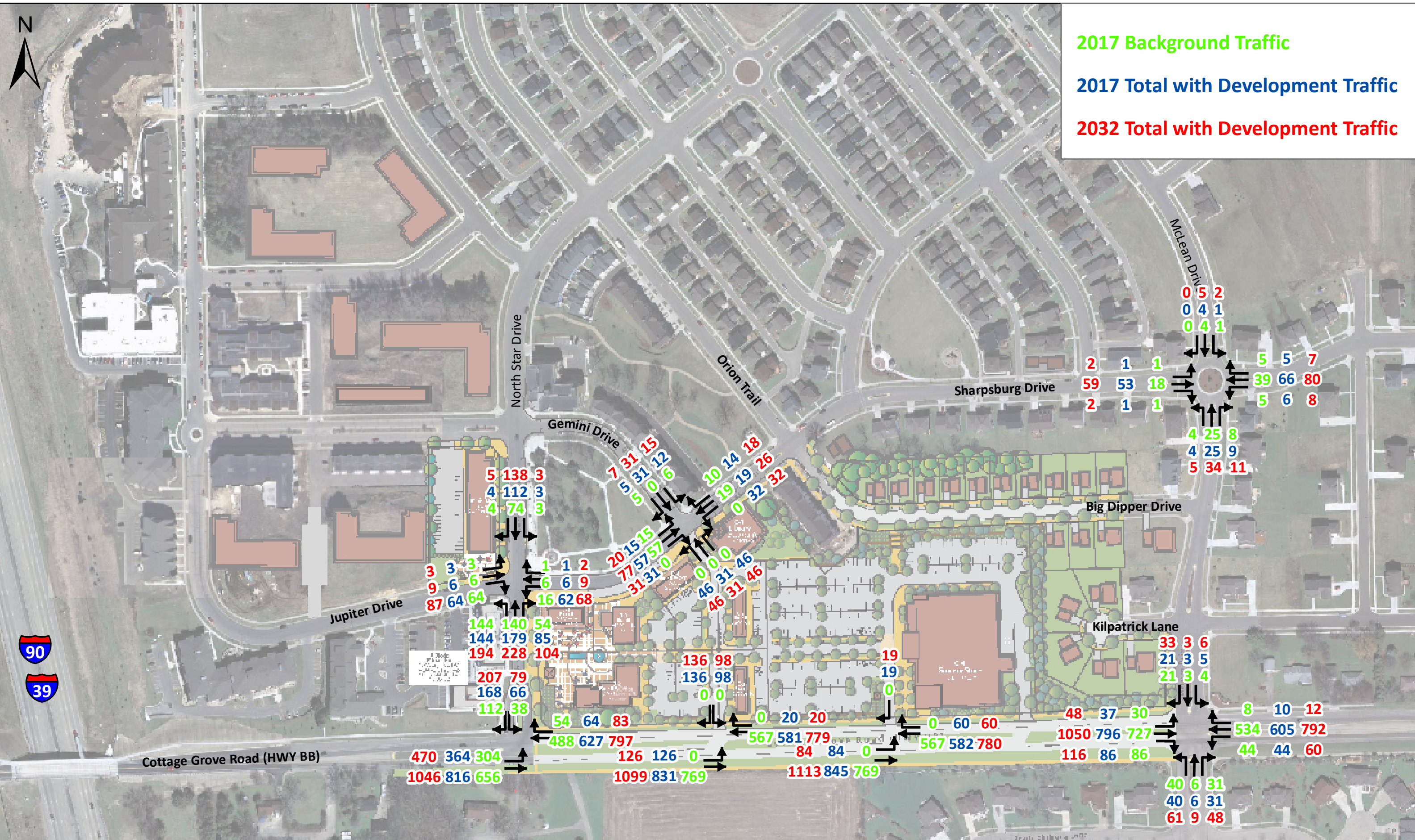




- New Trips
- (Pass-By Trips)







TRAFFIC AND IMPROVEMENT ANALYSES

Capacity analyses were completed for the PM peak hour for the proposed intersections of Cottage Grove Road and North Star Drive, Cottage Grove Road and McLean Drive and Cottage Grove Road with the two main proposed access points. The intersections of North Star Drive with Sharpsburg Drive/Jupiter Drive, Sharpsburg Drive with Gemini Drive/proposed development access, and Sharpsburg Drive and McLean Drive were also evaluated. The PM peak hour was analyzed because it has higher background and development traffic than occurs during the AM peak hour. All analyses were completed using Synchro traffic analysis software. Synchro is based on the methodologies from the Highway Capacity Manual and results in a level of service (LOS) and average delay for intersections as well as for individual approaches and traffic movements. A description of levels of service is provided in Appendix B. In addition, average travel speed and queuing results were determined from Sim Traffic software results. Sim Traffic is a microscopic simulation model that models each vehicle in the network individually (randomly assigning a driver type and a vehicle type to every vehicle as it enters the network). This methodology can provide more accurate speed and queuing results than macroscopic models (Synchro) by factoring in the interactions between adjacent intersections and is therefore better suited to model multiple intersections along a corridor. Synchro and Sim Traffic analyses are included in Appendix C for existing traffic, Appendix D for 2017 projected traffic and existing geometrics, Appendix E for 2017 projected traffic and proposed geometrics, and Appendix F for 2032 projected traffic. A summary of the results of the analyses follows.

Cottage Grove Road and North Star Drive Intersection

The intersection of Cottage Grove Road and North Star Drive is located approximately 900 feet east of the bridge over Interstate Highway 39/90 and is currently a tee intersection which is controlled by a stop sign on the North Star Drive approach. Cottage Grove Road has one through lane in each direction as well as a left turn lane for eastbound traffic and a right turn lane for westbound traffic intending to turn north onto North Star Drive. A single family home private access is on the south side of this intersection. The North Star Drive approach is a one lane roadway which widens at the intersection to provide separate left and right turn lanes and a short center median approximately 80 feet in length. This intersection has been evaluated by the City of Madison Traffic Engineering Department for the installation of traffic signals and plans are to install traffic signals at this location in the next year or two. Additionally, if and when the Schoenstatt property is developed, preliminary plans are to create an access point to the south resulting in a four-legged intersection.

This intersection was analyzed for:

- existing traffic and conditions
- in 2017 with projected traffic, including development traffic; and existing geometrics and stop control
- in 2017 with projected traffic, including development traffic; and existing geometrics and traffic signal
- in 2017 with projected traffic, including development traffic; and proposed geometrics and traffic signal
- in 2032 with projected traffic, including development traffic and an anticipated south approach; and proposed geometrics and traffic signal

Because this intersection may be expanded to the south if and when the property to the south becomes available for development, traffic volumes comparable to the volumes that currently exist on the south leg of the McLean Drive – Cottage Grove intersection were assumed for the 2032 analyses.

The summaries of these analyses are shown in the following table. The analyses show that the southbound approach to this intersection would be anticipated to operate at level of service (LOS) F with full development in 2017 if planned improvements, including the installation of a traffic signal, are not constructed before then. With a traffic signal, the intersection and all of its approaches, including a fourth leg from the south, would be anticipated to operate at or above LOS C through 2032.

The queuing analysis for this intersection shows that the 95th% eastbound left turn queue during the PM peak hour is 220 feet so the eastbound left turn lane on Cottage Grove Road at this intersection should be constructed with a minimum length of 250 feet and a preferred length of 300 feet.

**COTTAGE GROVE ROAD AND NORTH STAR DRIVE
WEEKDAY PM PEAK HOUR**

| Intersection | Traffic Control | Eastbound | Westbound | Northbound | Southbound |
|--|---|---|--|--|--|
| 2011 Existing Traffic Existing Geometrics and Traffic Control | Two-way Stop Control Intersection LOS N/A | Left LOS A 9 sec delay | N/A | N/A | Approach LOS C 16 sec delay |
| 2017 Traffic with development Existing Geometrics and Traffic Control | Two-way Stop Control Intersection LOS N/A | Left LOS B 12 sec delay | N/A | N/A | Approach LOS F 174 sec delay |
| 2017 Traffic with development Existing Geometrics | Traffic Signal Intersection LOS B 17 sec delay | Approach LOS B 13 sec delay Thru LOS C 22 sec delay Right LOS A 9 sec delay | Approach LOS C 25 sec delay Thru/Left LOS C 25 sec delay Right LOS C 20sec delay | Approach LOS C 24 sec delay | Approach LOS B 14 sec delay Left LOS C 28 delay Right A LOS 9 sec delay |
| 2017 Traffic with development Proposed Geometrics Traffic Signal | Traffic Signal Intersection LOS A 10 sec delay | Approach LOS A 7 sec delay Left LOS B 11 sec delay Thru LOS A 5 sec delay | Approach LOS B 15 sec delay Thru/Left LOS B 16 sec delay Right LOS A 5 sec delay | Approach LOS B 17 sec delay | Approach LOS B 10 sec delay Left LOS B 20 sec delay Right LOS A 7 sec delay |
| 2032 Traffic with development Proposed Geometrics | Traffic Signal Intersection LOS B 17 sec delay | Approach LOS B 13 sec delay Thru LOS C 28 sec delay Right LOS A 7 sec delay | Approach LOS C 24 sec delay Left LOS C 26 sec delay Thru LOS A 9 sec delay | Approach LOS C 25 sec delay (assumed volumes from future development) | Approach LOS B 12 sec delay Thru/Left LOS C 24 sec delay Right LOS A 7 sec delay |

Cottage Grove Road and development access points

There are three development access points proposed for the development onto Cottage Grove Road, two for general traffic and one intended to serve mostly delivery trucks servicing the grocery store.

The westernmost access is proposed to be a new public street extending from Cottage Grove Road to the north and connecting to Gemini Drive at its intersection with Sharpsburg Drive. This access is proposed to be an entry as well as a two lane exit and is located on Cottage Grove Road approximately 450 feet east of its intersection with North Star Drive. Approximately 400 feet further east is a proposed partial access which would access the front of the proposed grocery store. Right turns would be allowed into and out of this access, but left turns would only be allowed in, not out of the development.

The easternmost access point is proposed to primarily provide truck access to the rear of the grocery store and would serve an estimated 10 to 15 trucks per day. This is proposed to be a partial median break allowing trucks to turn into the driveway at the rear of the store. This access was not specifically evaluated because of the overall very low volume of traffic, specifically during the peak hours. It is located approximately 300 feet east of the center access and approximately 400 feet west of the McLean Drive intersection.

Summaries of the analyses for the two primary Cottage Grove Road access intersections follow. They show that the west full access point (the extension of Gemini Drive) would be anticipated to operate at LOS E during the PM peak hour in 2017 if the planned improvements on Cottage Grove Road are not completed prior to full development. With the planned four lane improvements on Cottage Grove Road, the southbound left turn exiting the new development would be anticipated to operate at LOS D in 2017 and LOS E in 2032 during the PM peak hour. However, if a traffic signal is installed at McLean Road, gaps created by the traffic signal should lessen the delay and improve the LOS for these vehicles.

Traffic turning right to exit the development from both access points is anticipated to operate at LOS B or better during the PM peak hour through 2032. Traffic turning left from Cottage Grove Road into the development is also anticipated to operate at LOS B or better during the PM peak hour through 2032.

Queuing analyses for these intersections indicate that with anticipated traffic on Cottage Grove Road during the PM peak hour in 2032, both eastbound left turn lanes on Cottage Grove Road are anticipated to experience 95% queues approaching 100 feet. Therefore, left turn lanes at all three Cottage Grove Road access points should be constructed at a minimum length of 150 feet.

**COTTAGE GROVE ROAD AND EXTENSION OF GEMINI DRIVE
WEEKDAY PM PEAK HOUR**

| Intersection | Traffic Control | Eastbound | Westbound | Northbound | Southbound |
|--|-------------------------|-------------------------------|-----------|------------|--|
| 2011 Existing Traffic Existing Geometrics and Traffic Control | N/A | N/A | N/A | N/A | N/A |
| 2017 Traffic with development Existing Geometrics | Two-way Stop Control | Left LOS A 10 sec delay | N/A | N/A | Approach LOS E 39 sec delay Left LOS F 71 delay Right LOS C 16 sec delay |
| 2017 Traffic with development Proposed Geometrics | Two-way Stop Control | Left LOS A 10 sec delay | N/A | N/A | Approach LOS C 18 sec delay Left LOS D 27 delay Right LOS B 12 sec delay |
| 2032 Traffic with development Proposed Geometrics | Two-way Stop Control | Left LOS B 11 sec delay | N/A | N/A | Approach LOS C 24 sec delay Left LOS E 38 sec delay Right LOS B 14 sec delay |

**COTTAGE GROVE ROAD AND EAST DEVELOPMENT ACCESS
WEEKDAY PM PEAK HOUR**

| Intersection | Traffic Control | Eastbound | Westbound | Northbound | Southbound |
|--|-------------------------|-------------------------------|------------------|-------------------|--------------------------------|
| 2011 Existing Traffic Existing Geometrics and Traffic Control | N/A | N/A | N/A | N/A | N/A |
| 2017 Traffic with development Existing Geometrics | Two-way Stop Control | Left LOS A 10 sec delay | N/A | N/A | Right LOS B 13 sec delay |
| 2017 Traffic with development Proposed Geometrics | Two-way Stop Control | Left LOS A 10 sec delay | N/A | N/A | Right LOS B 11 sec delay |
| 2032 Traffic with development Proposed Geometrics | Two-way Stop Control | Left LOS B 11 sec delay | N/A | N/A | Right LOS B 12 sec delay |

Cottage Grove Road and McLean Drive Intersection

This intersection is located approximately 1,550 feet east of the North Star Drive intersection and 1,800 feet west of the Sprecher Road intersection with Cottage Grove Road. Existing traffic control consists of stop signs on the McLean Drive approaches. There are single travel lanes with left and right turn lanes in each direction on Cottage Grove Road. The McLean Drive approach from the south has two undesignated approach lanes and the north approach, although lanes are not marked, is 26 feet wide and can easily accommodate two lanes. The City of Madison has evaluated this location for a traffic signal and it currently does not meet warrants. However, the City does plan for the installation of a traffic signal at this intersection when warrants are met.

This intersection was analyzed for:

- existing traffic and conditions
- in 2017 with projected traffic, including development traffic; and existing geometrics and stop control
- in 2017 with 2017 base traffic (development traffic not included), proposed geometrics and stop control
- in 2017 with projected traffic, including development traffic; and proposed geometrics and stop control
- in 2032 with 2032 base traffic (development traffic not included), proposed geometrics and stop control
- in 2032 with projected traffic, including development traffic; and proposed geometrics and stop control
- in 2032 with projected traffic, including development traffic; and proposed geometrics and a traffic signal

The Highway Capacity analyses for this intersection, which were confirmed by field delay studies, show that the northbound approach currently operates at level of service (LOS) C during the PM peak hour. This would be expected to drop to LOS D by 2017 with full development if planned improvements are not completed for Cottage Grove Road. With planned improvements and development traffic, the level of service for the northbound approach is anticipated to be LOS C in 2017 and LOS F in 2032. This compares to an anticipated level of service C in 2017 and LOS E in 2032 without additional development traffic. Therefore, the installation of a traffic signal will likely be warranted as traffic on Cottage Grove Road increases. This is consistent with City of Madison plans for future traffic signals. A traffic signal at this location would not only improve the level of service for the McLean Drive approaches to this intersection, it would also serve to create gaps in traffic at the proposed development access points. A traffic signal here would also create an easier crossing for bicyclists and pedestrians traveling between Richmond Hill and other areas south of Cottage Grove Road and the proposed development.

**COTTAGE GROVE ROAD AND MCLEAN DRIVE
WEEKDAY PM PEAK HOUR**

| Intersection | Traffic Control | Eastbound | Westbound | Northbound | Southbound |
|--|---------------------------------|------------------------------|-------------------------------|--|--|
| 2011 Existing Traffic Existing Geometrics and Traffic Control | Two-way Stop Control | Left LOS A 8 sec delay | Left LOS A 9 sec delay | Approach LOS C 18 sec delay Left lane LOS C 21 sec delay Right lane LOS B 14 sec delay | Approach LOS B 13 sec delay Left lane LOS C 19 sec delay Right lane LOS B 12 sec delay |
| 2017 Traffic with development Existing Geometrics | Two-way Stop Control | Left LOS A 9 sec delay | Left LOS B 10 sec delay | Approach LOS D 27 sec delay Left lane LOS E 35 sec delay Right lane LOS C 18 sec delay | Approach LOS C 17 sec delay Left lane LOS D 29 sec delay Right lane LOS B 14 sec delay |
| 2017 BaseTraffic (Development traffic not included) Proposed Geometrics | Two-way Stop Control | Left LOS A 9 sec delay | Left LOS B 10 sec delay | Approach LOS C 20 sec delay Left lane LOS D 26 sec delay Right LOS B 13 sec delay | Approach LOS B 13 sec delay Left lane LOS C 21 sec delay Right lane LOS B 11 sec delay |
| 2017 Traffic with development Proposed Geometrics | Two-way Stop Control | Left LOS A 9 sec delay | Left LOS B 10 sec delay | Approach LOS C 23 sec delay Left lane LOS D 30 sec delay Right LOS B 13 sec delay | Approach LOS B 14 sec delay Left lane LOS C 23 sec delay Right lane LOS B 12 sec delay |

**COTTAGE GROVE ROAD AND MCLEAN DRIVE
WEEKDAY PM PEAK HOUR (CONTINUED)**

| Intersection | Traffic Control | Eastbound | Westbound | Northbound | Southbound |
|--|--|--|--|---|--|
| 2032 BaseTraffic (Development traffic not included) Proposed Geometrics | Two-way Stop Control | Left LOS A 10 sec delay | Left LOS B 12 sec delay | Approach LOS E 40 sec delay Left lane LOS F 59 sec delay Right LOS C 16 sec delay | Approach LOS C 16 sec delay Left lane LOS D 32 sec delay Right lane LOS B 13 sec delay |
| 2032 Traffic with development Proposed Geometrics | Two-way Stop Control | Left LOS A 10 sec delay | Left LOS B 12 sec delay | Approach LOS F 50 sec delay Left lane LOS F 77 sec delay Right LOS C 17 sec delay | Approach LOS C 17 sec delay Left lane LOS E 37 sec delay Right lane LOS B 13 sec delay |
| 2032 Traffic with development Proposed Geometrics | Traffic Signal Intersection LOS A 7 sec delay | Approach LOS A 6 sec delay Left LOS A 5 sec delay Thru LOS A 5 sec delay | Approach LOS A 6 sec delay Left LOS A 7 sec delay Thru LOS A 6 sec delay | Approach LOS C 22 sec delay | Approach LOS B 14 sec delay |

North Star Drive and Sharpsburg Drive/Jupiter Drive Intersection

This intersection is located approximately 350 feet north of the Cottage Grove Road intersection with North Star Drive. Both North Star Drive and Sharpsburg Drive are classified as collector streets. There currently are stop signs on the Sharpsburg Drive approach from the east and the Jupiter Drive approach from the west. All four approaches are one lane approaches with no turn lanes.

All approaches to this intersection currently operate at level of service B or better during the PM peak hour. With annual growth and full development, including Building E-1, the westbound approach is expected to operate at LOS D in 2017 and LOS F in 2032 during the PM peak hour if the existing two-way stop control is maintained. As traffic volumes increase, four-way stop control or the construction of a roundabout should be considered. These options are preferable to additional traffic lanes because of the desire to maintain a pedestrian/bicycle friendly roadway system in this area. An analysis of the intersection with existing geometry and four-way stop control in 2032 results in LOS C for the intersection and LOS C or better on all approaches. The queuing analysis shows that the longest queue with four-way stop control would be on the northbound approach with an anticipated 95th queue of 169 feet. This would not likely result in problems at the Cottage Grove Road traffic signal. However, the ability to add a northbound right turn lane on the North Star Drive approach from the south should be protected as part of the proposed development plan in case backups do become a problem in the future. A future one lane roundabout could also be considered for the future here, however it may not be feasible because of geometric constraints caused by existing facilities, including the retaining wall in the northeast quadrant. Additionally, adequate pedestrian and bicycle facilities would need to be included in the design.

NORTH STAR DRIVE AND SHARPSBURG DRIVE/JUPITER DRIVE WEEKDAY PM PEAK HOUR

| Intersection | Traffic Control | Eastbound | Westbound | Northbound | Southbound |
|--|--|-----------------------------------|-----------------------------------|-------------------------------|-------------------------------|
| 2011 Existing Traffic Existing Geometrics and Traffic Control | Two-way Stop Control | Approach LOS A 10 sec delay | Approach LOS B 15 sec delay | Left LOS A 4 sec delay | Left LOS A 1 sec delay |
| 2017 Traffic with development | Two-way Stop Control | Approach LOS B 11 sec delay | Approach LOS D 25 sec delay | Left LOS A 4 sec delay | Left LOS A 1 sec delay |
| 2032 Traffic with development | Two-way Stop Control | Approach LOS B 12 sec delay | Approach LOS F 54 sec delay | Left LOS A 4 sec delay | Left LOS A 1 sec delay |
| 2032 Traffic with development | Four-way Stop Control Intersection LOS C 19 sec delay | Approach LOS A 10 sec delay | Approach LOS B 10 sec delay | Left LOS C 24 sec delay | Left LOS B 10 sec delay |

Sharpsburg Drive and Gemini Drive/Gemini Drive Extension Intersection (North access to proposed development)

This intersection is located approximately 400 feet east of the North Star Drive intersection with Sharpsburg Drive. It is currently a tee intersection with a stop sign on the Gemini Drive approach on the north. An extension of Gemini Drive is planned as a new public street to the south. Currently, all three approaches to the intersection are single lane with no turn lanes.

The developer plans a two lane approach from the south for this intersection, therefore it was analyzed as a two-lane approach with a combined left/thru lane and an exclusive right turn lane. The existing one lane geometry was analyzed for the other three approaches. With this geometry and stop control on the Gemini Drive/development access approaches, all approaches to this intersection are anticipated to operate at LOS B or better through 2032.

Queues at this intersection are not expected to exceed 60 feet in any direction.

**SHARPSBURG DRIVE AND GEMINI DRIVE (DEVELOPMENT ACCESS)
WEEKDAY PM PEAK HOUR**

| Intersection | Traffic Control | Eastbound | Westbound | Northbound | Southbound |
|--|----------------------|------------------------------|------------------------------|--|----------------------------------|
| 2011 Existing Traffic Existing Geometrics and Traffic Control | Two-way Stop Control | Left LOS A 2 sec delay | N/A | N/A | Approach LOS A 9 sec delay |
| 2017 Traffic with development Proposed Geometrics | Two-way Stop Control | Left LOS A 1 sec delay | Left LOS A 4 sec delay | Approach LOS B 10 sec delay Left/thru LOS B 11 sec delay Right LOS A 9 sec delay | Thru LOS B 11 sec delay |
| 2032 Traffic with development | Two-way Stop Control | Left LOS A 1 sec delay | Left LOS A 4 sec delay | Approach LOS B 11 sec delay Left/thru LOS B 12 sec delay Right LOS A 9 sec delay | Thru LOS B 11 sec delay |

Sharpsburg Drive and McLean Drive Intersection

This intersection is located approximately 750 feet north of the Cottage Grove Road intersection with McLean Drive and approximately 1000 feet east of the Gemini Drive intersection with Sharpsburg Drive. It is a small single lane roundabout with yield signs on all four approaches. A Synchro analysis of this intersection results in LOS A on all four approaches through 2032. With traffic growth and development traffic, total traffic using this intersection is not expected to exceed 200 vehicles in the PM peak hour. This is a very manageable traffic volume for an intersection with these characteristics. However, consideration should be given to improving the sight distance at this location both for pedestrians and motorists by keeping the plantings on the outer edge of the traffic circle trimmed below three feet above street level.

SHARPSBURG DRIVE AND MCLEAN DRIVE WEEKDAY PM PEAK HOUR

| Intersection | Traffic Control |
|--|--|
| 2011 Existing Traffic Existing Geometrics and Traffic Control | Roundabout Yield Control Intersection LOS A |
| 2017 Traffic with development | Roundabout Yield Control Intersection LOS A |
| 2032 Traffic with development | Roundabout Yield Control Intersection LOS A |

PEDESTRIAN, BICYCLE AND MULTI-USE CONSIDERATIONS

Currently the sidewalks on both sides of Cottage Grove Road are discontinuous. The developer has plans to complete the sidewalk along the north side of Cottage Grove Road between North Star Drive and McLean Road as part of the development. The City of Madison plans to complete the rest of the sidewalk east to Sprecher Road along both sides of Cottage Grove Road as part of the planned reconstruction in 2015. The City of Madison is also considering construction of a wider multi-use path for the north side of Cottage Grove Road. If a wider path is installed, in order to improve safety at the development access points, the crossings should be made as visible as possible with enhanced pavement treatments and signing to alert motorists of crossing bicyclists. The planned reconstruction includes bicycle lanes in both directions on Cottage Grove Road east to Sprecher Road and west to connect to existing bicycle lanes on the west side of the interstate. The planned bicycle lanes are consistent with Cottage Grove Road accommodations to the west and will serve as an access route to the proposed development as well as an extension of the Madison bike system.

In addition to the planned sidewalk and bicycle lanes along Cottage Grove Road, the developer has plans for pedestrian and bicycle circulation within the development. Although final plans were not determined at the time of this report, an east-west pedestrian/bicycle connection is planned, either as a standalone or part of a motor vehicle travel way, from the front of the grocery store to and across the proposed extension of Gemini Drive to the western part of the development. Bicycle and pedestrian accommodations will be provided on both sides of the extension of Gemini Drive and will connect to this east-west route. In addition, a north-south connection from Cottage Grove Road to Big Dipper Drive across the front of the store and a pedestrian connection from the Kirkpatrick Lane cul-de-sac to the north side of the grocery store are planned. Because of a grade issue and the need to construct a stairway, the Kirkpatrick Lane sidewalk would not accommodate bicyclists; however they could be directed to the Big Dipper Drive path from either Sharpsburg Drive or McLean Drive with appropriate signing. Extending the Kirkpatrick Lane sidewalk to the Big Dipper Drive sidewalk and completing the ped/bike connection from the Big Dipper Drive connection to the west to Gemini Drive along the north side of the parking lot should also be considered. This would give pedestrians and bicycles coming from the north and east an option to access the smaller commercial areas, including the proposed public library, without using any of the main vehicular access points. It would also provide an alternative route for pedestrians and bicycles coming from the south on McLean Drive who prefer to avoid biking or walking along Cottage Grove Road. The roadways north of the proposed development are neighborhood streets with sidewalks on both sides and adequate roadway width to accommodate bicycles with the projected traffic volumes.

All traffic signals installed in the area should have pedestrian signals as well as highly visible marked crosswalks. Crosswalks should also be marked across Sharpsburg Drive at North Star Drive, Gemini Drive, and Big Dipper Drive as well as across North Star Drive and Gemini Drive at Sharpsburg Drive.

With the exception of school routes, Madison Metro does not currently have transit service in this area. However, consideration should be given to extending public transit into the area as development progresses. Because the extension of Gemini Drive would be a desirable location to serve public facilities, it should be designed and constructed to accommodate future bus traffic and bus stops.

COTTAGE GROVE ROAD RECONSTRUCTION

The planned reconstruction to convert Cottage Grove Road to four lanes and install bicycle lanes is tentatively scheduled for 2014. The grocery store is planned for 2012 with the public library tentatively budgeted in 2014. The remaining parcels are expected to follow based on market demand. The City of Madison has plans to install a traffic signal at the Cottage Grove Road – North Star Drive intersection in 2012. It is recommended that these traffic signals be in operation prior to the opening of the grocery store. The sidewalk on the north side of Cottage Grove Road and the extension of Gemini Drive should be completed as part of the grocery store development in 2012. Additionally, minimum 100 foot left turn and minimum 50 foot right turn lanes should be constructed on Cottage Grove Road approaching the Gemini Drive extension and the grocery store access point prior to the grocery store opening in 2012. Analyses of 2017 traffic with existing geometrics show that these lanes would be adequate to handle Cottage Grove Road traffic through 2017 if the reconstruction of Cottage Grove is delayed; however traffic exiting the development would experience long delays if the reconstruction of Cottage Grove Road is not completed by 2017.

CONCLUSIONS AND RECOMMENDATIONS

The proposed Grandview Commons Town Center Development, on the north side of Cottage Grove Road between North Star Drive and McLean Drive, consists of a 58,000 square foot grocery store, a public library, some other small commercial uses and multi-family and single family residential. The grocery store is expected to open in 2012 with full development planned to be completed by 2017.

The analyses show that with the construction of turn lanes on Cottage Grove Road on the approaches to the extension of Gemini Drive and the grocery store access, and the planned installation of a traffic signal at the North Star Drive intersection; the existing roadway system should be adequate to accommodate additional traffic resulting from the proposed development until Cottage Grove Road is reconstructed to four lanes in 2015. With the planned reconstruction of Cottage Grove Road, the proposed street system is adequate to accommodate additional traffic resulting from the proposed development through 2032. However, in order to best accommodate the traffic anticipated by this development, the following improvements are recommended in addition to the four lane construction on Cottage Grove Road and the addition of a traffic signal at the Cottage Grove Road and North Star Drive intersection:

- Construction of minimum 150 foot left turn lanes at all three accesses on Cottage Grove Road
- Construction of a minimum 250 foot left turn lane on eastbound Cottage Grove Road at North Star Drive
- Construction of a minimum 150 foot left turn lanes on Cottage Grove Road at McLean Drive and the installation of a traffic signal at the Cottage Grove Road and McLean Drive intersection if it becomes warranted.
- Consideration of four-way stop control at the North Star Drive/Jupiter Drive/Sharpsburg Drive intersection as volumes warrant.
- Provisions to allow for the possible future installation of a right turn lane on the northbound approach of North Star Drive at its intersection with Jupiter Drive/Sharpsburg Drive if it becomes necessary.
- Pedestrian/Bicycle connections should be constructed as planned through the development along the extension of Gemini Drive, through the parking lot between the planned pedestrian plaza and the grocery store, in front of the grocery store continuing from Cottage Grove Road to Big Dipper Drive, from Kilpatrick Lane to Big Dipper Drive and also from the Big Dipper Drive connection to the public library along the north side of the parking lot.
- Pedestrian signals and crosswalks should be installed at signalized intersections. Crosswalks should also be marked across Sharpsburg Drive at North Star Drive, Gemini Drive and Big Dipper Drive and across North Star Drive and Gemini Drive at Sharpsburg Drive. A crosswalk should also be marked where the internal pedestrian/bicycle way crosses the extension of Gemini Drive.
- Consideration of extending Madison Metro transit service into the area and providing appropriate accommodations for this service within the development.

The recommendations above are based on traffic analyses completed for the traffic anticipated to be generated by the development. After reductions for internal, mixed

use and multi-modal trips, the proposed development is anticipated to generate approximately 8,705 total trips during an average weekday with approximately 870 of these trips occurring during the PM peak hour and 509 occurring during the AM peak hour. Approximately 7,139 of the daily trips, 720 of the PM peak hour trips, and 412 of the AM peak hour trips are anticipated to be new trips.

These trips were assigned to the existing roadway system using current street system geometrics, existing travel patterns and engineering judgment. The development is proposed to have four access points, three on Cottage Grove Road and one onto Sharpsburg Drive opposite its intersection with Gemini Drive. The west access point on Cottage Grove Road is intended to be a full access with the other two planned to allow for right turns in and out of the development as well as left turns into the development. Left turns out of the development would not be allowed at these two locations.

Analyses of the street system were completed for the PM peak hour and were completed for 2017 and 2032 traffic. In addition to individual intersection evaluations, the roadway network was evaluated as a whole with particular attention paid to the interaction between intersections along Cottage Grove Road.

APPENDIX A
Traffic Volumes

2017 Projected PM Design Hour Traffic Volumes With Added Development Trips

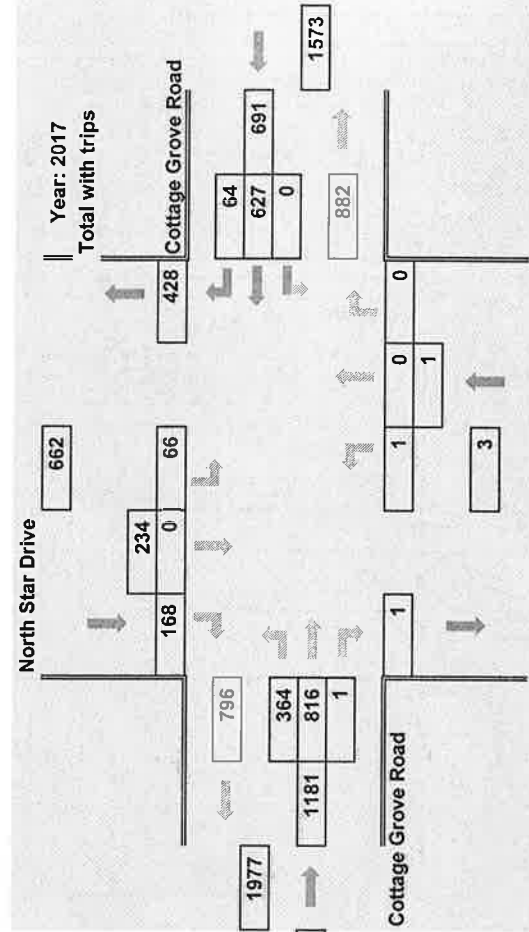
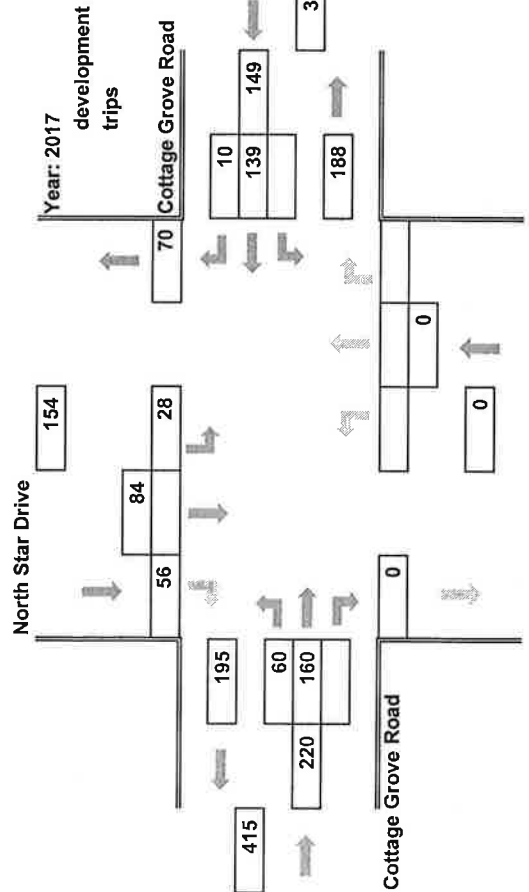
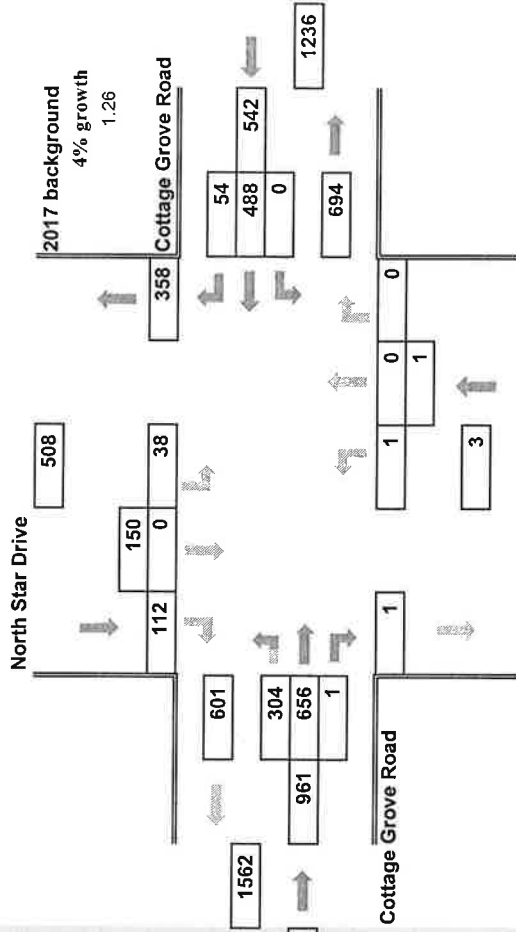
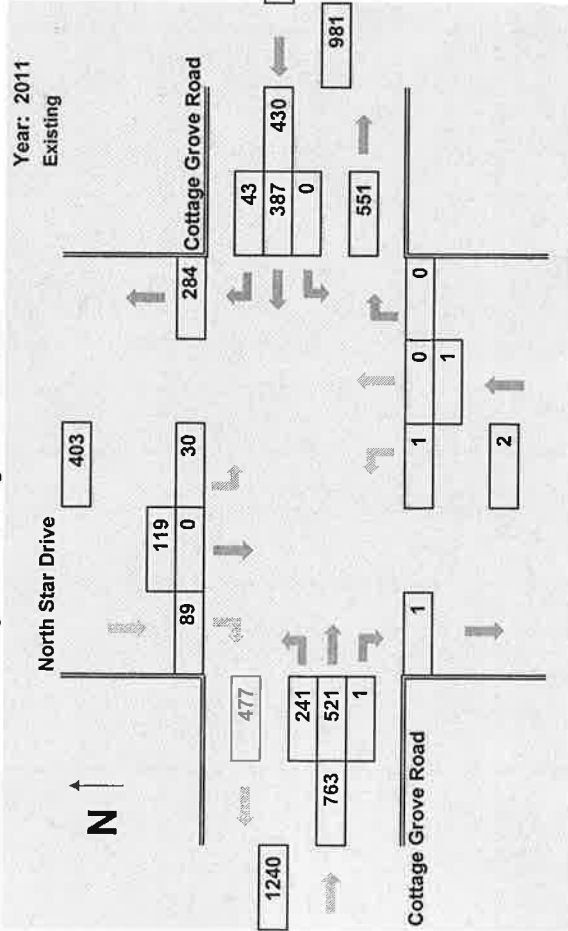
Project Description

Grandview Commons Town Center
 Location: Cottage Grove Road
 Cross Street: North Star Drive
 City of Madison, Dane County, WI

Mary Greuel
 KL Engineering

Design Hour: 5:00-6:00 PM

Design Hour Turning Movement Data



2017 Projected PM Design Hour Traffic Volumes With Added Development Trips

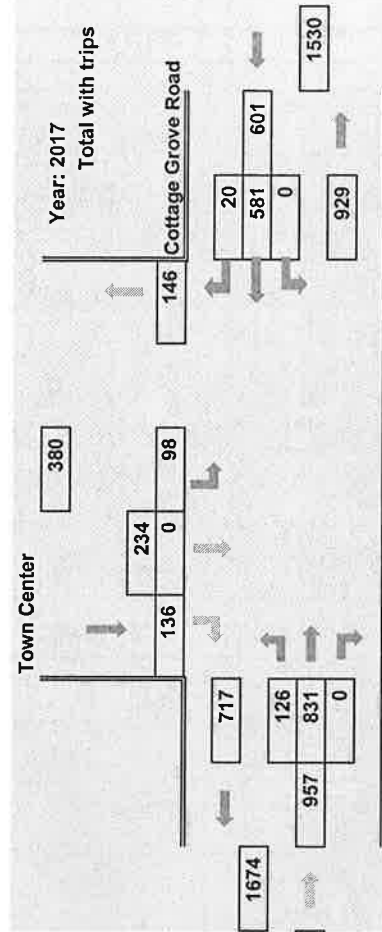
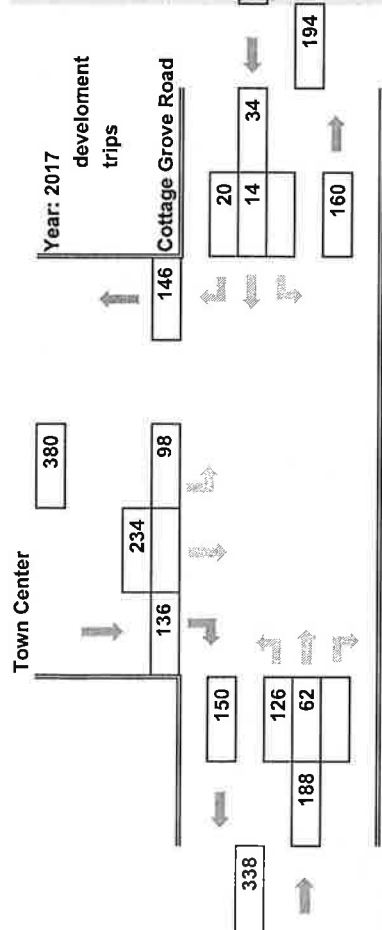
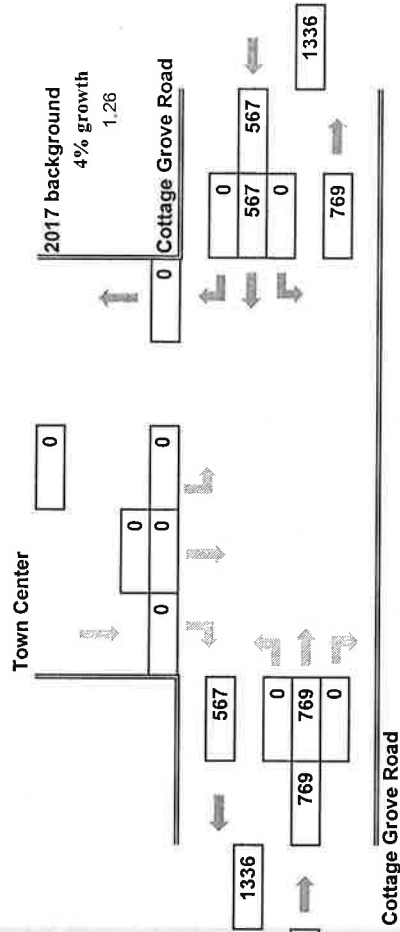
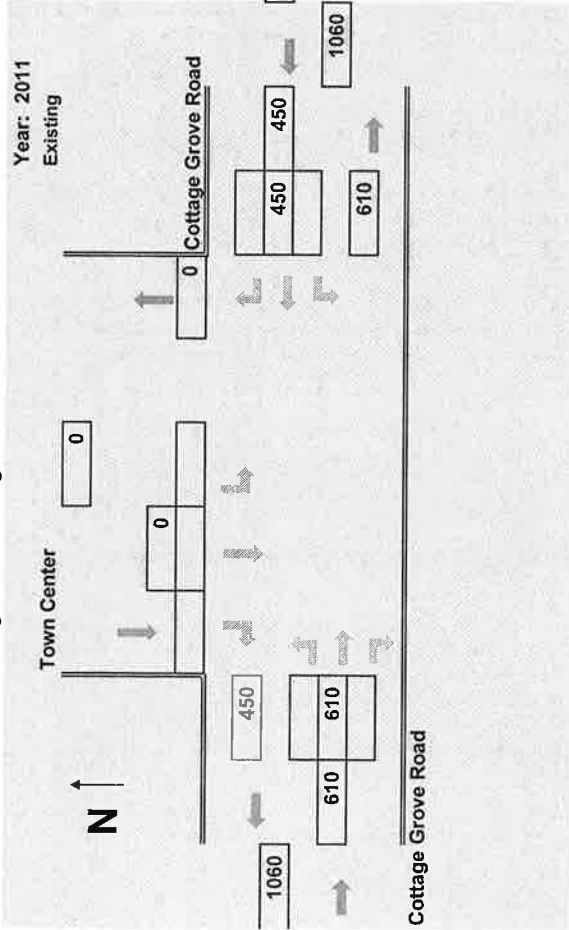
Mary Greuel
KL Engineering

Design Hour: 5:00-6:00 PM

Project Description

Grandview Commons Town Center
Location: Cottage Grove Road
Cross Street: Main Town Center Access
City of Madison, Dane County, WI

Design Hour Turning Movement Data



2017 Projected PM Design Hour Traffic Volumes With Added Development Trips

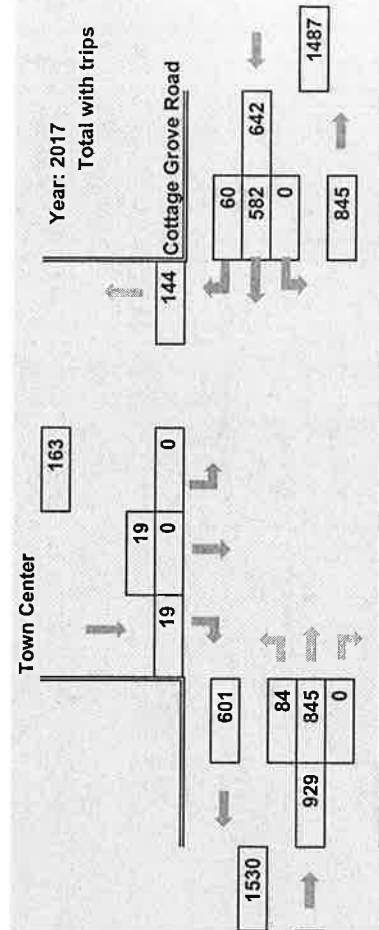
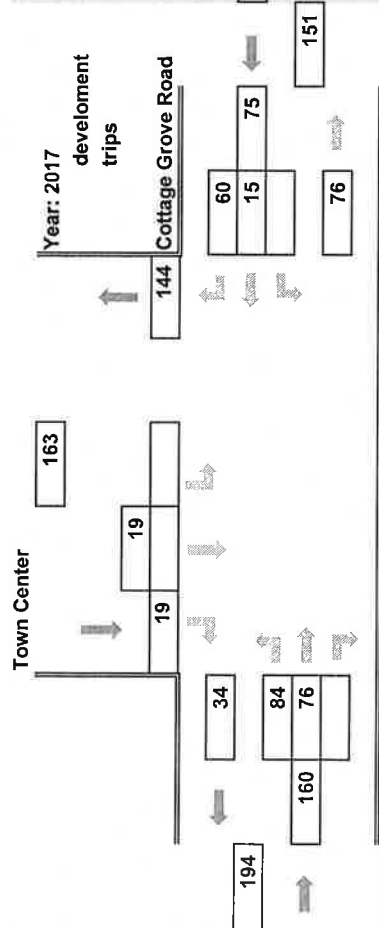
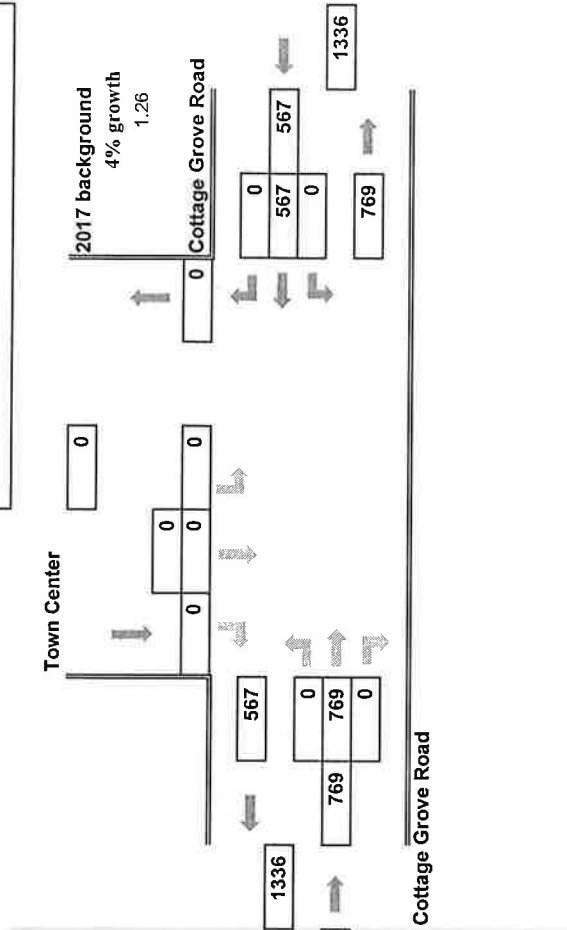
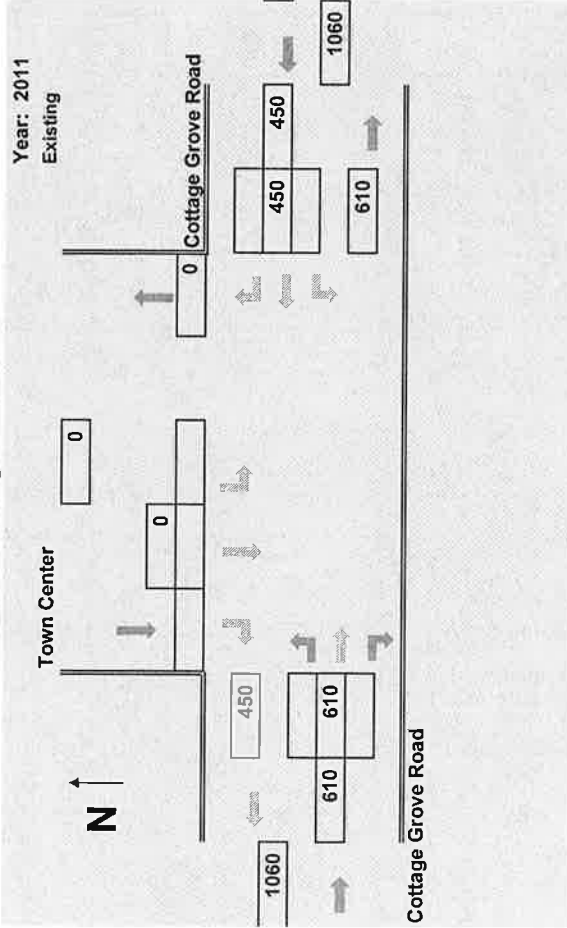
Project Description

Mary Greuel
KL Engineering

Grandview Commons Town Center
Location: Cottage Grove Road
Cross Street: Main Town Center Access
City of Madison, Dane County, WI

Design Hour: 5:00-6:00 PM

Design Hour Turning Movement Data



2017 Projected PM Design Hour Traffic Volumes With Added Development Trips

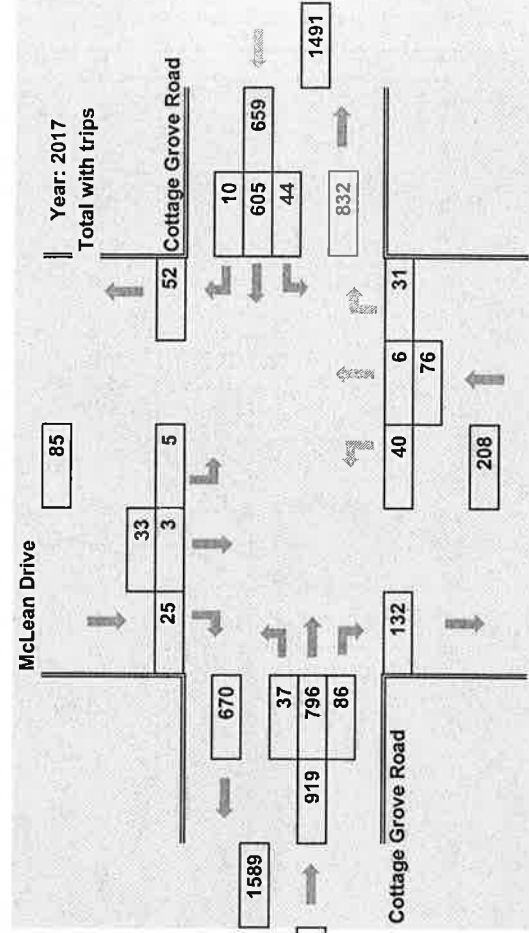
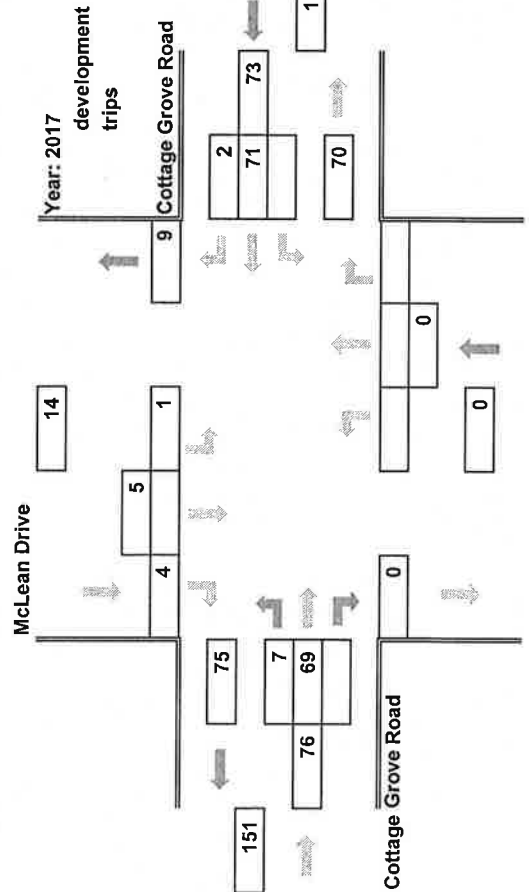
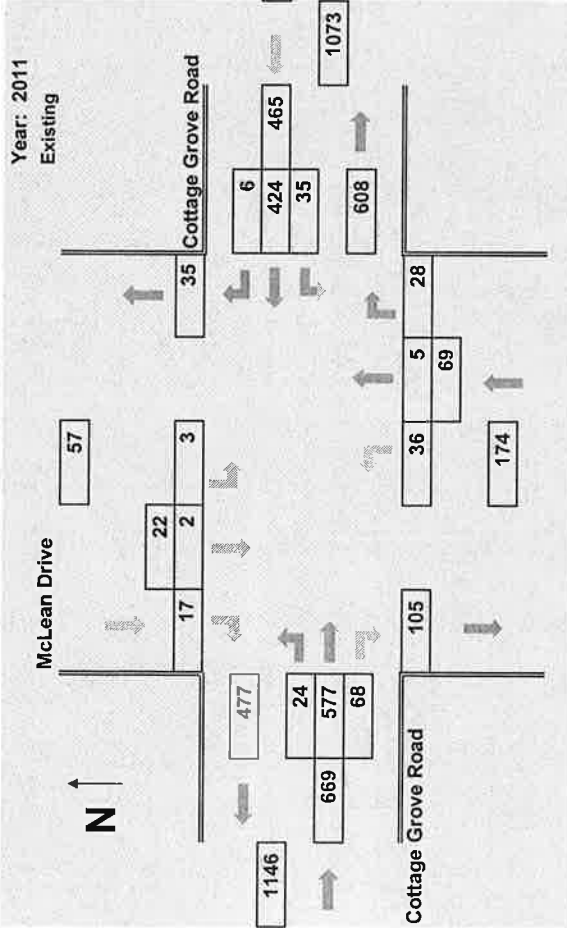
Project Description

Grandview Commons Town Center
Location: Cottage Grove Road
Cross Street: McLean Drive
City of Madison, Dane County, WI

Mary Greuel
KL Engineering

Design Hour: 4:30 - 5:30 PM

Design Hour Turning Movement Data



2017 Projected PM Design Hour Traffic Volumes With Added Development Trips

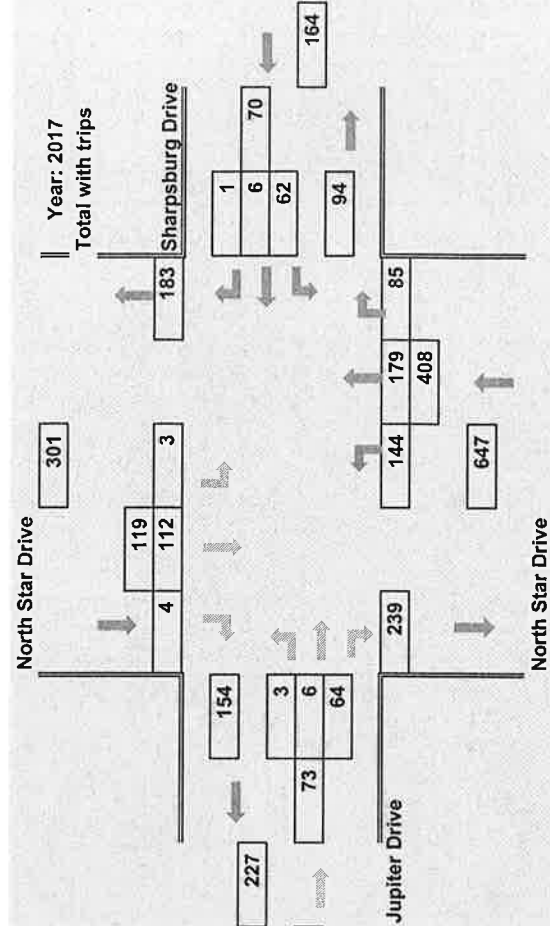
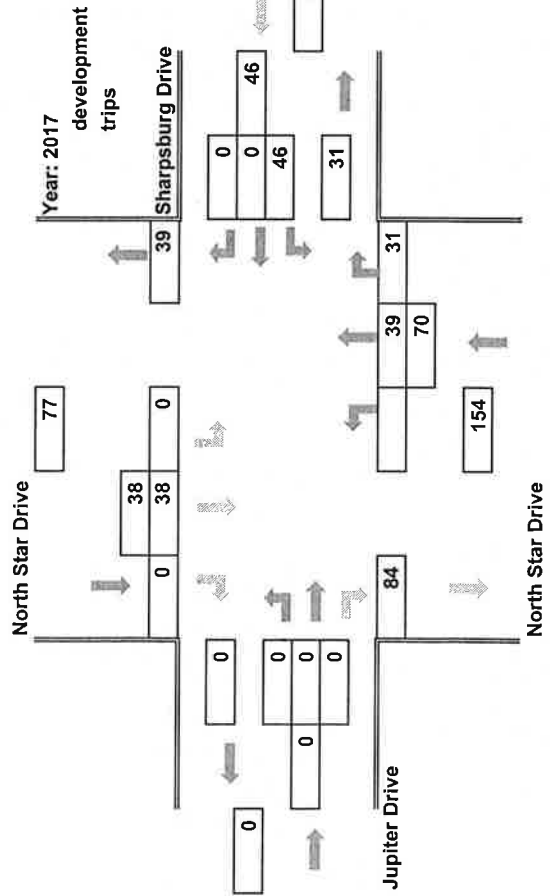
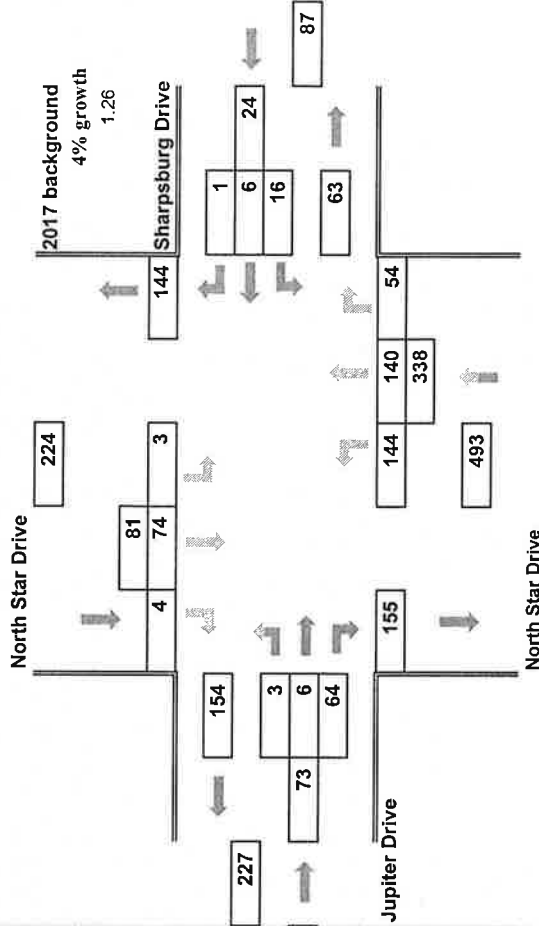
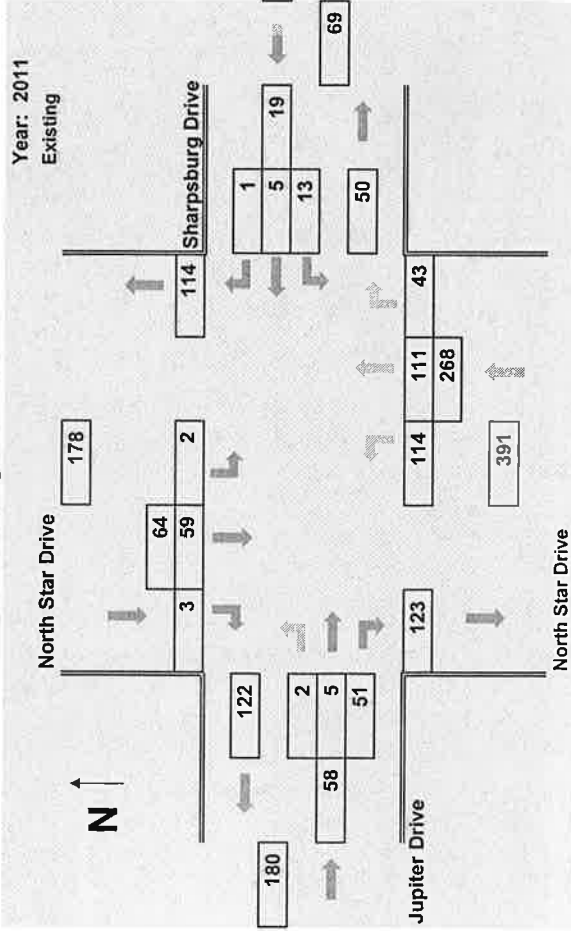
Mary Greuel
KL Engineering

Design Hour: 5:00-6:00 PM

Project Description

Grandview Commons Town Center
Location: North Star Drive
Cross Street: Jupiter Dr. / Sharpsburg Dr.
City of Madison, Dane County, WI

Design Hour Turning Movement Data



2017 Projected PM Design Hour Traffic Volumes With Added Development Trips

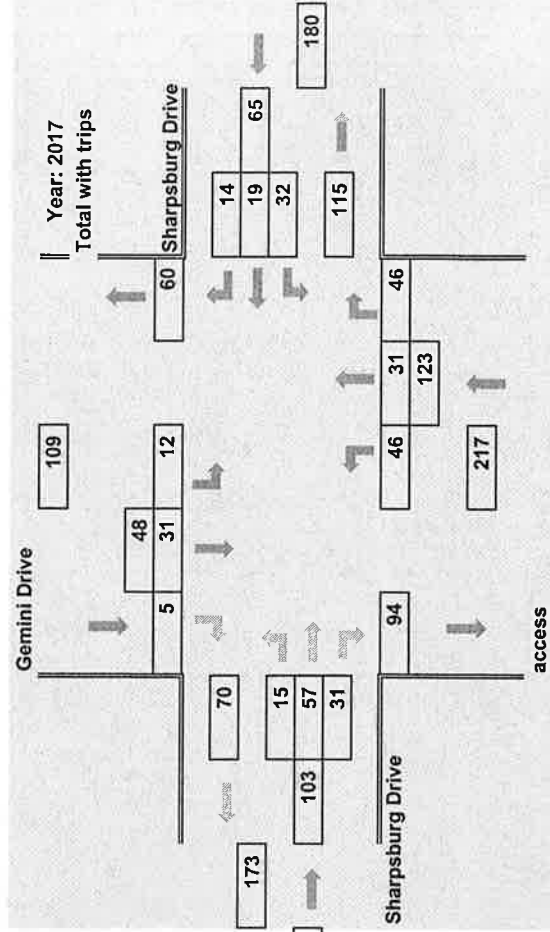
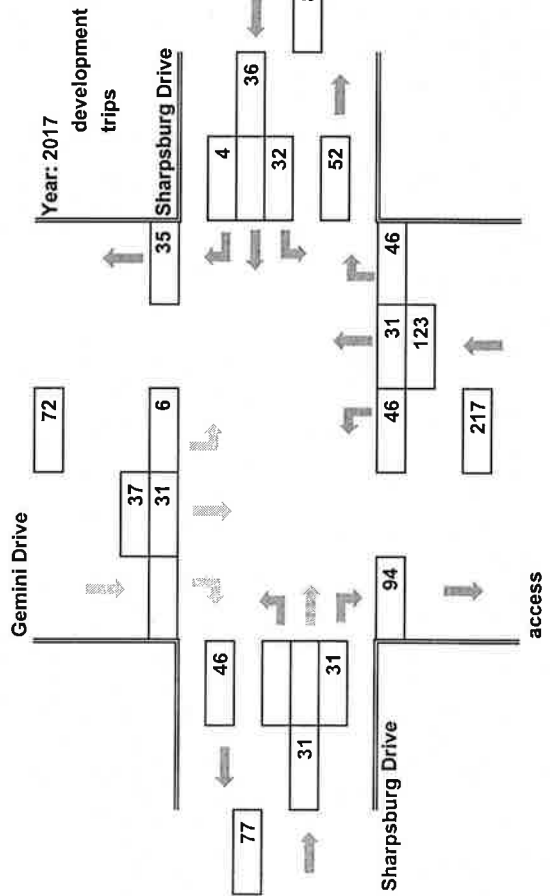
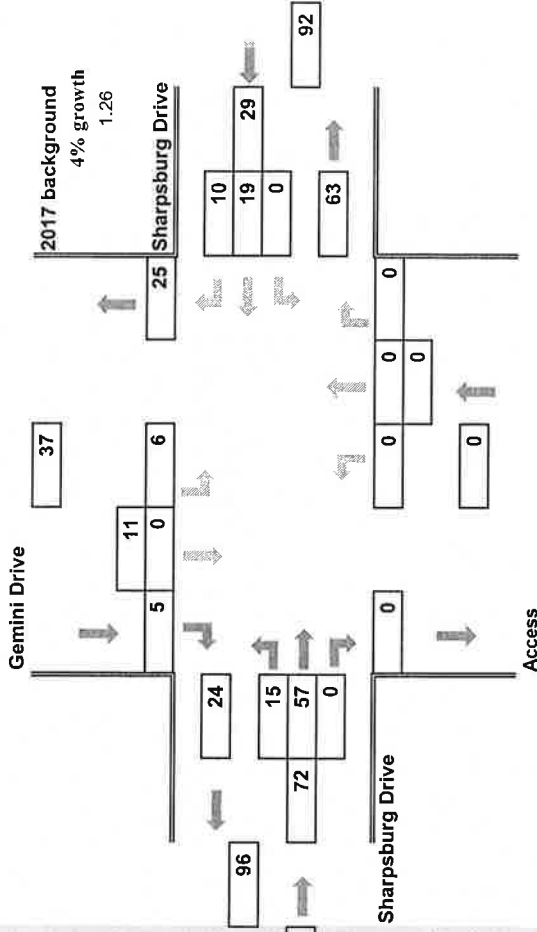
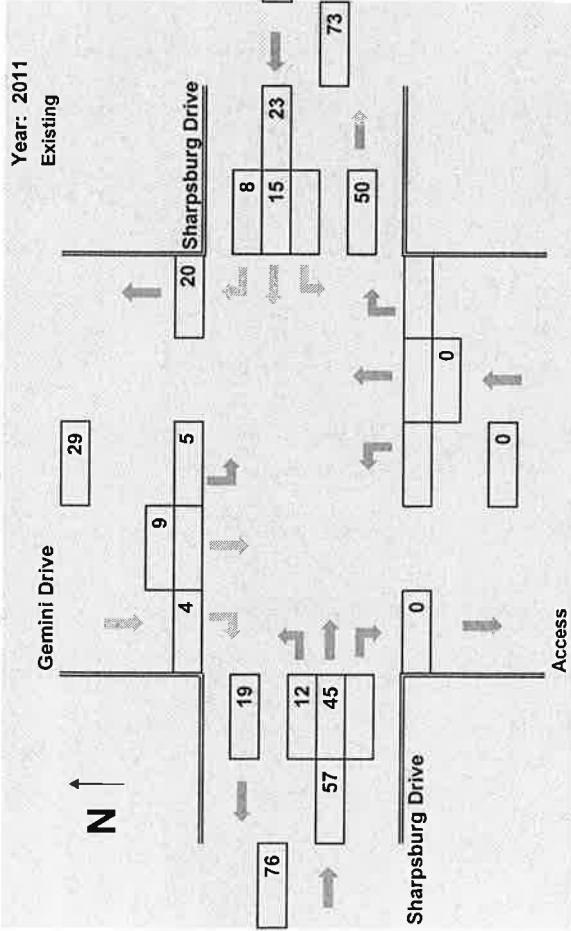
Project Description

Grandview Commons Town Center
Location: Sharpsburg Drive
Cross Street: Gemini Drive/access
City of Madison, Dane County, WI

Mary Greuel
KL Engineering

Design Hour: 5:00-6:00 PM

Design Hour Turning Movement Data



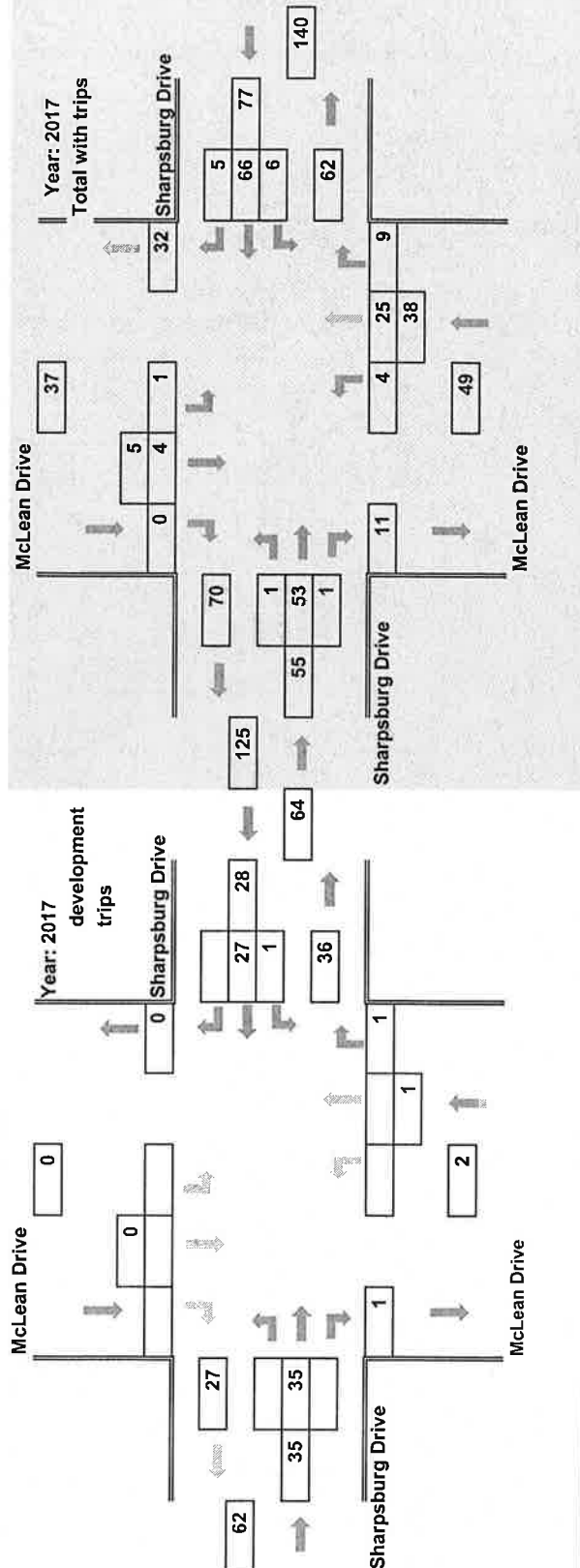
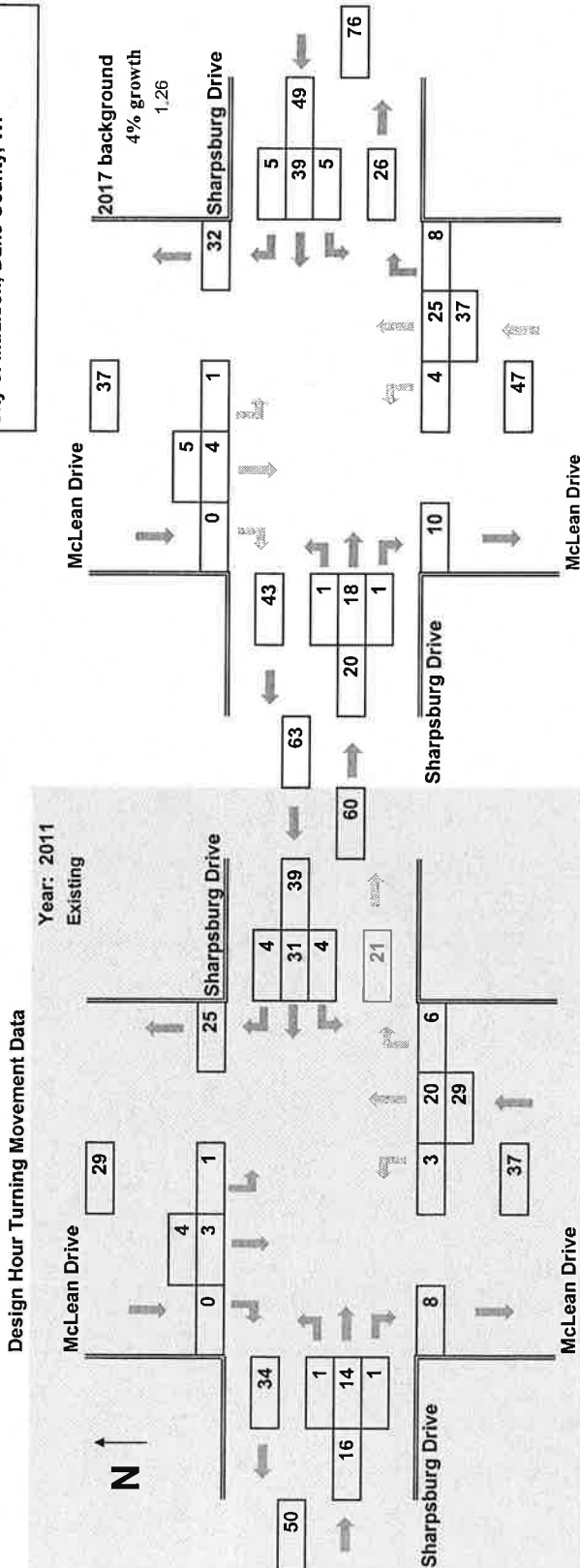
2017 Projected PM Design Hour Traffic Volumes With Added Development Trips

Mary Greuel
KL Engineering

Design Hour: 5:00-6:00 PM

Project Description

Grandview Commons Town Center
Location: Sharpsburg Drive
Cross Street: McLean Drive
City of Madison, Dane County, WI



2032 Projected PM Design Hour Traffic Volumes With Added Development Trips

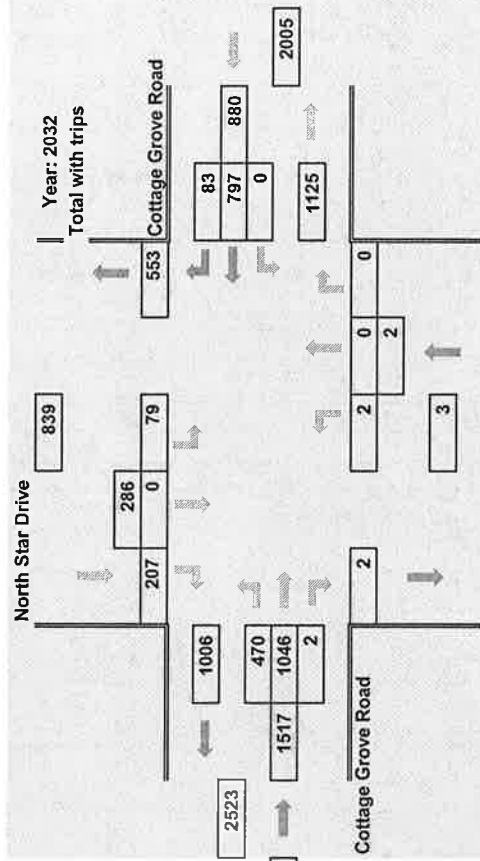
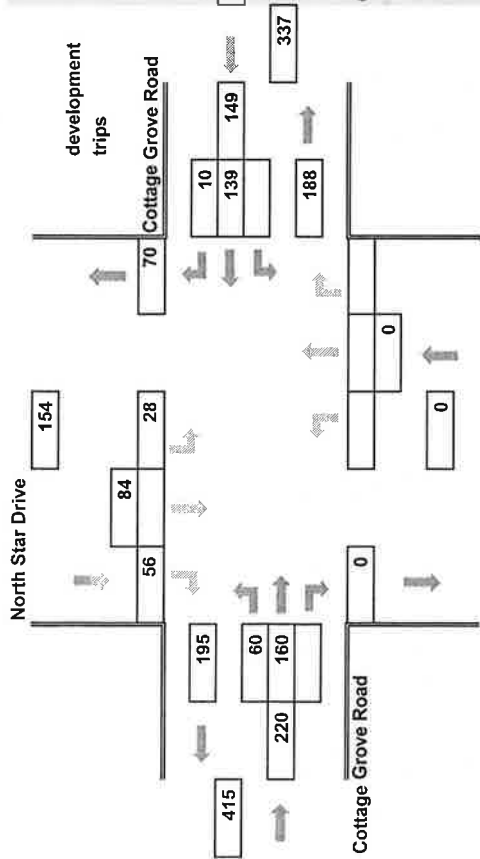
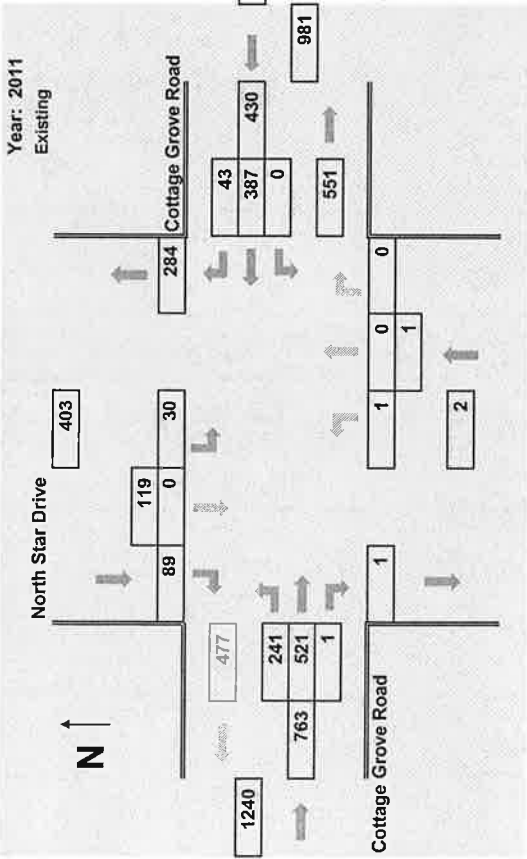
Mary Greuel
KL Engineering

Project Description

Grandview Commons Town Center
Location: Cottage Grove Road
Cross Street: North Star Drive
City of Madison, Dane County, WI

Design Hour: 5:00-6:00 PM

Design Hour Turning Movement Data



2032 Projected PM Design Hour Traffic Volumes With Added Development Trips

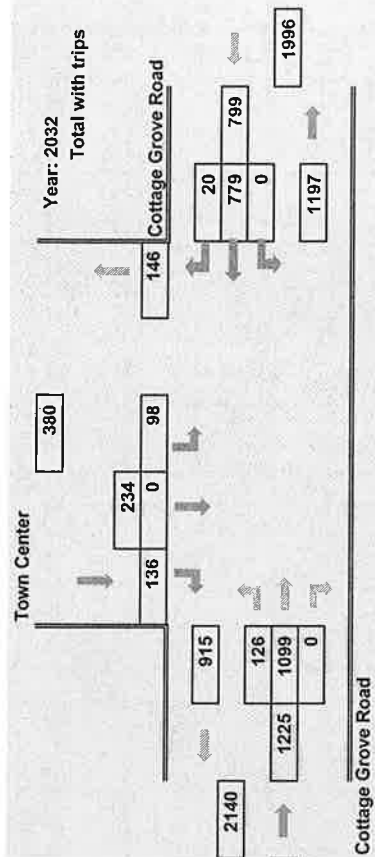
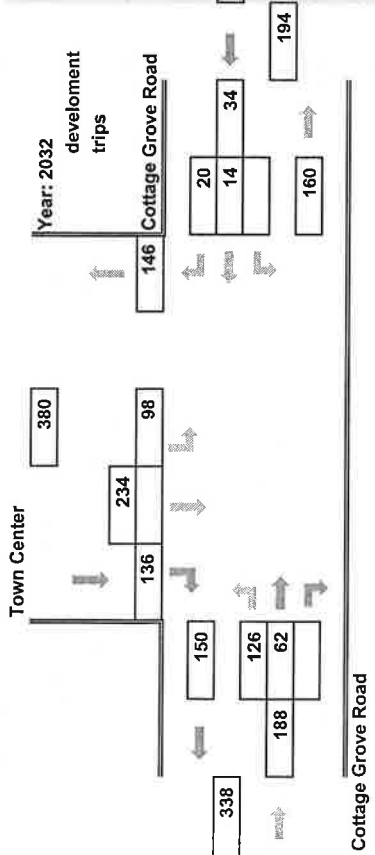
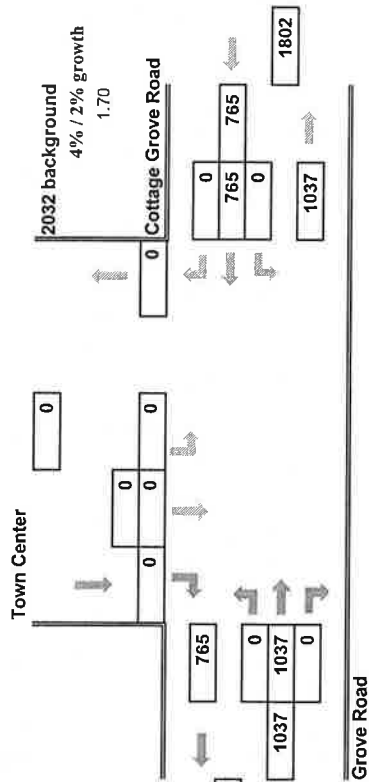
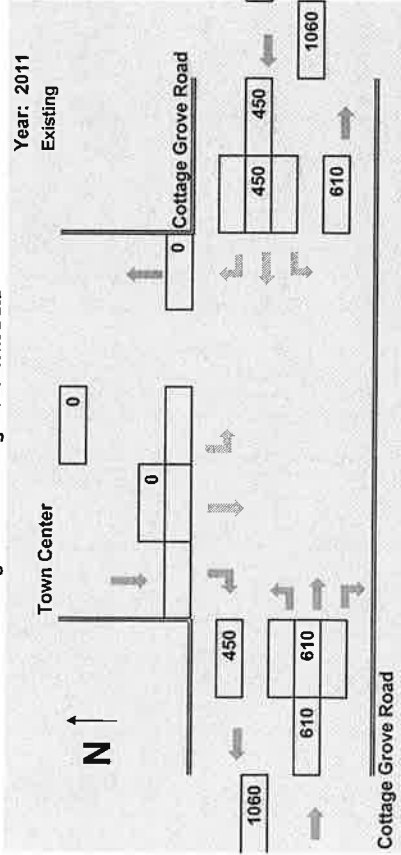
Mary Greuel
KL Engineering

Design Hour: 5:00-6:00 PM

Project Description

Grandview Commons Town Center
Location: Cottage Grove Road
Cross Street: Main Town Center Access
City of Madison, Dane County, WI

Design Hour Turning Movement Data



2032 Projected PM Design Hour Traffic Volumes With Added Development Trips

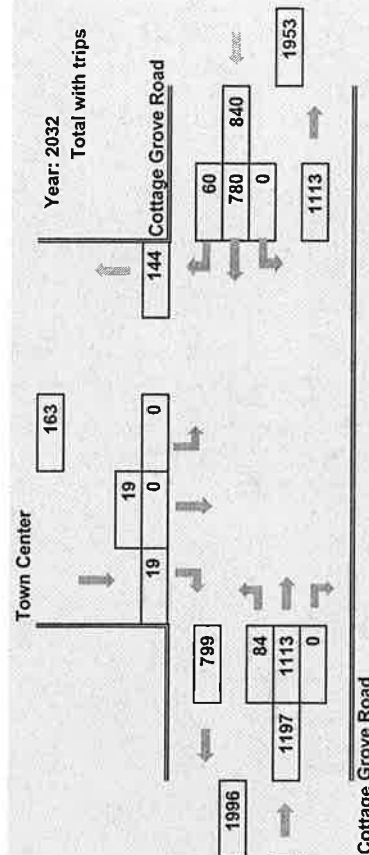
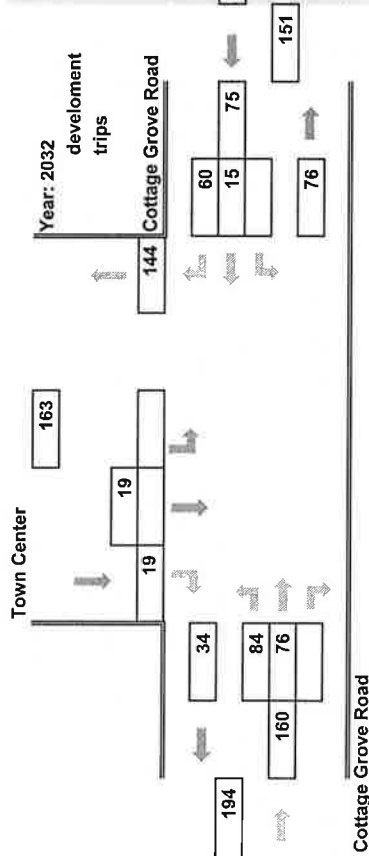
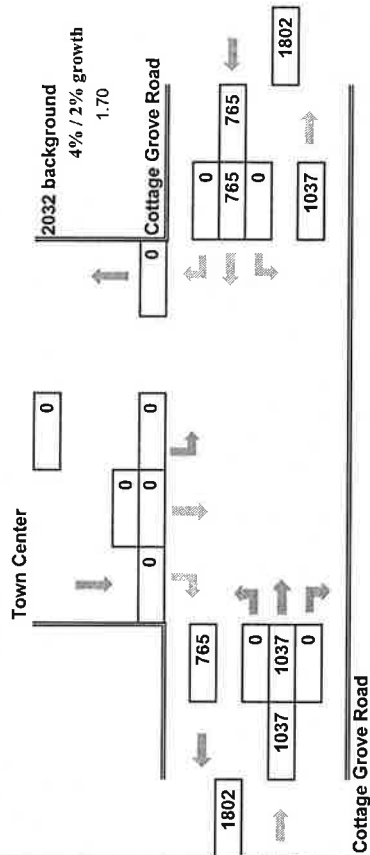
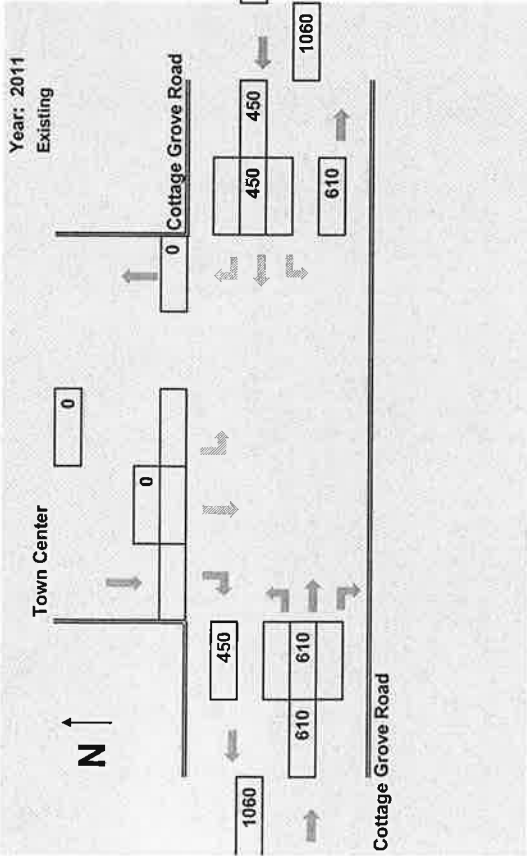
Mary Greuel
KL Engineering

Design Hour: 5:00-8:00 PM

Project Description

Grandview Commons Town Center
Location: Cottage Grove Road
Cross Street: Main Town Center Access
City of Madison, Dane County, WI

Design Hour Turning Movement Data



2032 Projected PM Design Hour Traffic Volumes With Added Development Trips

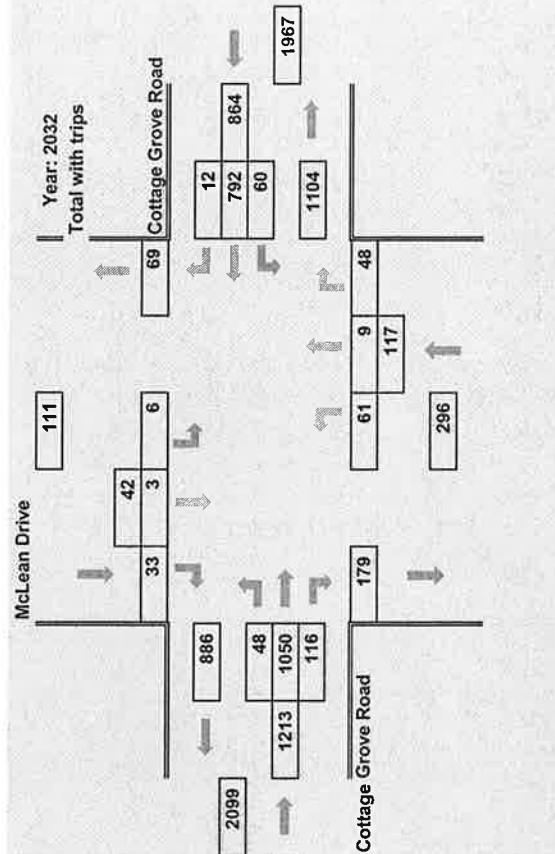
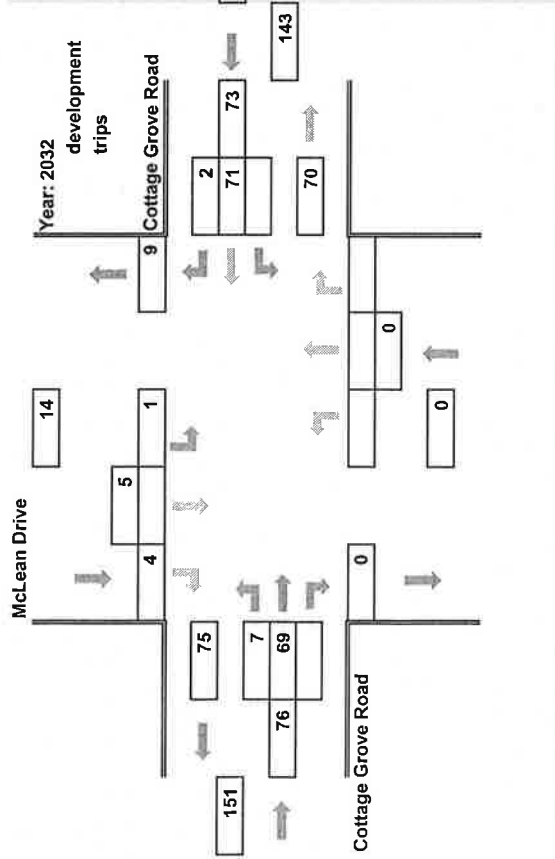
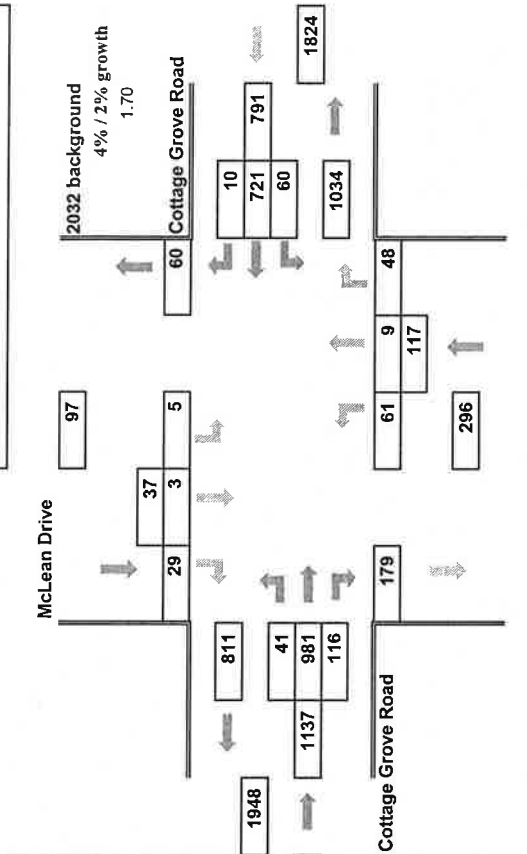
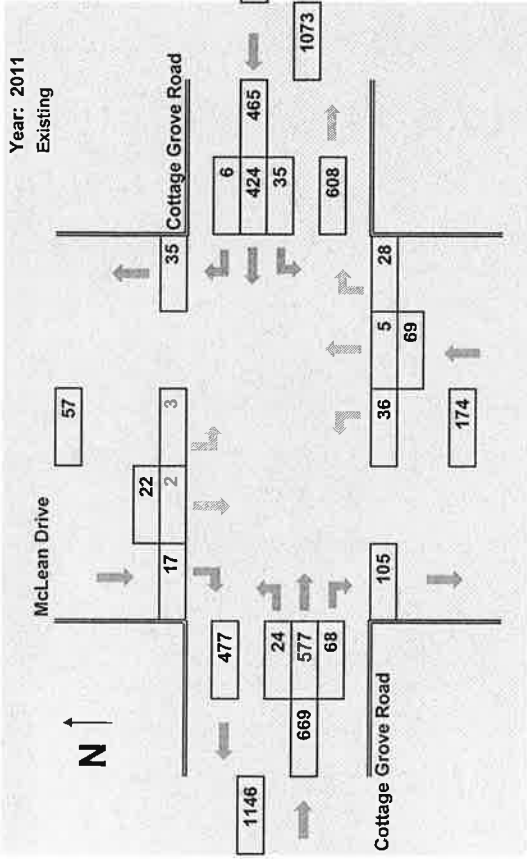
Mary Greuel
KL Engineering

Design Hour: 4:30 - 5:30 PM

Project Description

Grandview Commons Town Center
Location: Cottage Grove Road
Cross Street: McLean Drive
City of Madison, Dane County, WI

Design Hour Turning Movement Data



2032 Projected PM Design Hour Traffic Volumes With Added Development Trips

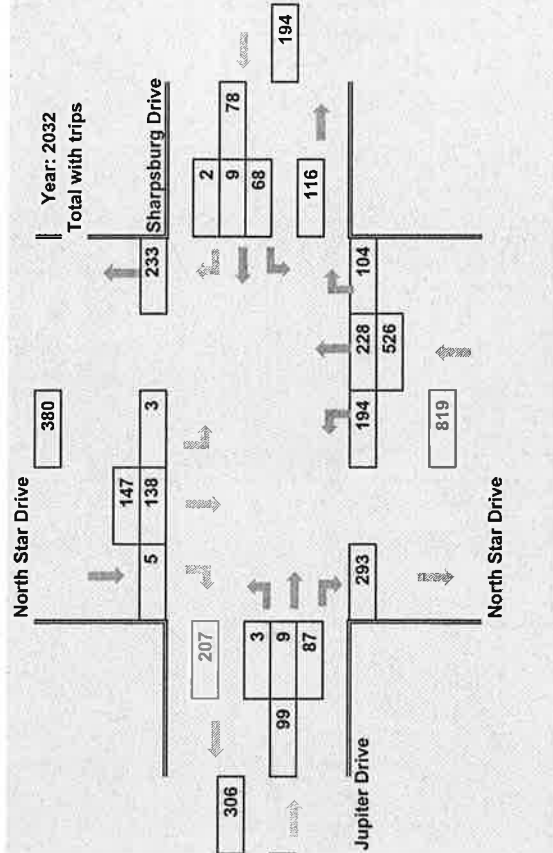
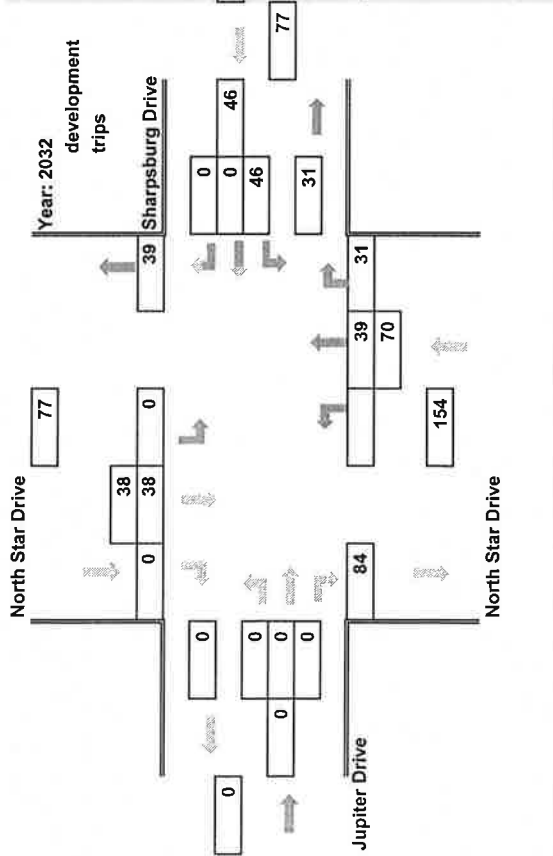
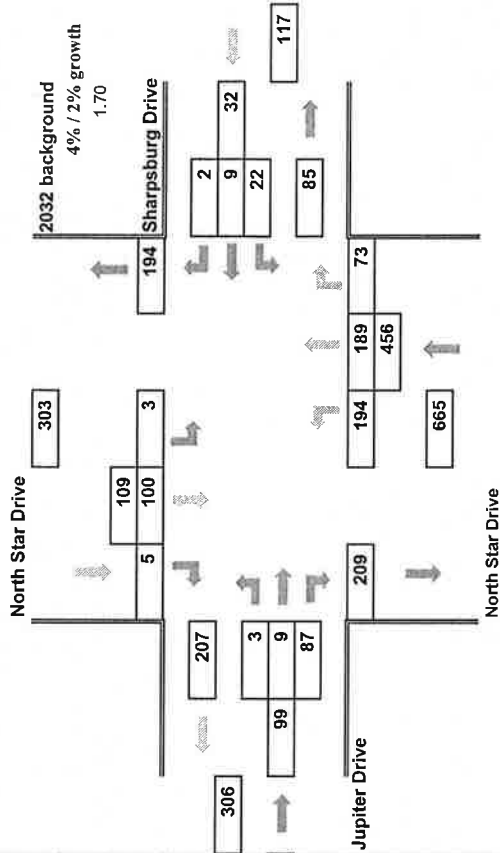
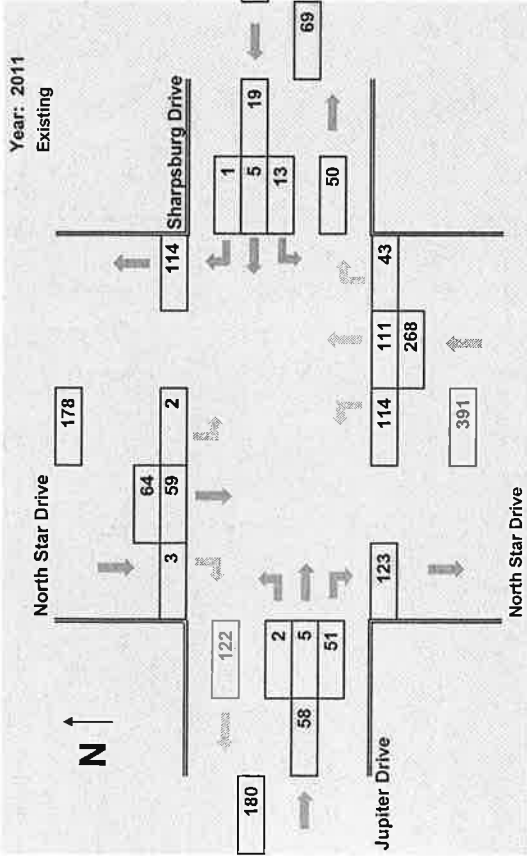
Mary Greuel
KL Engineering

Project Description

Grandview Commons Town Center
Location: North Star Drive
Cross Street: Jupiter Dr. / Sharspsburg Dr.
City of Madison, Dane County, WI

Design Hour: 5:00-6:00 PM

Design Hour Turning Movement Data



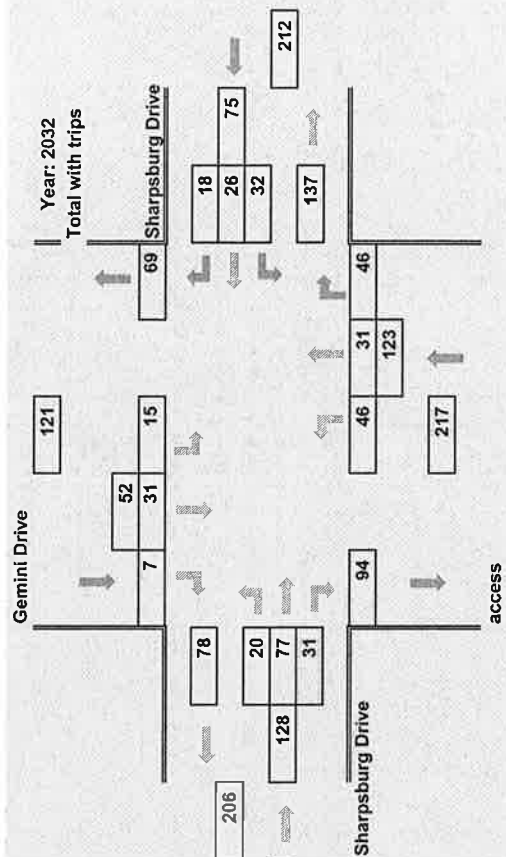
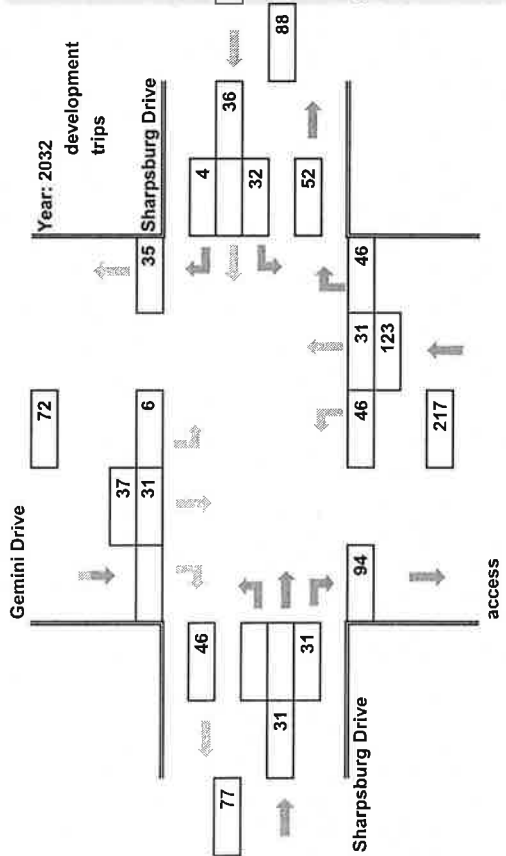
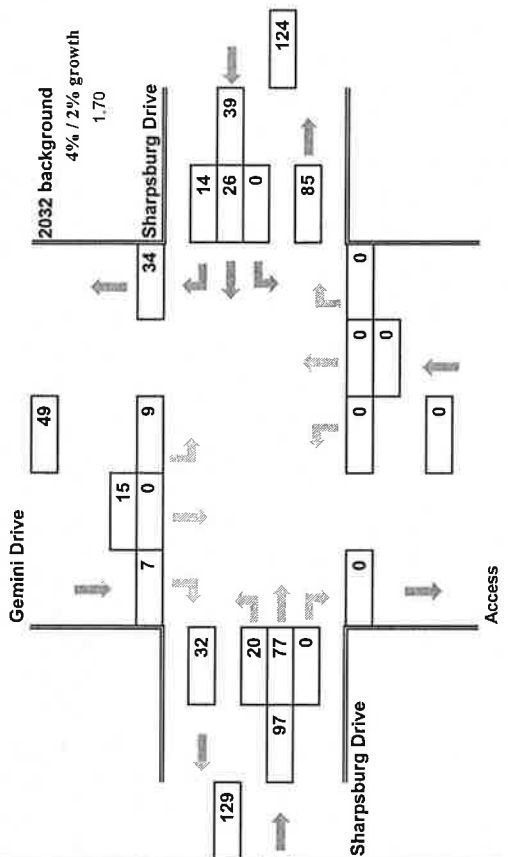
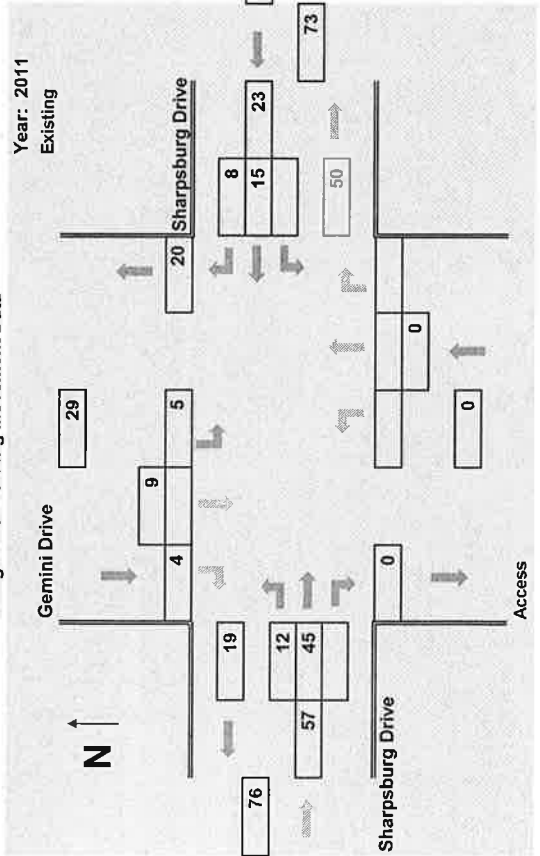
Mary Greuel
KL Engineering

2032 Projected PM Design Hour Traffic Volumes With Added Development Trips

Design Hour: 5:00-6:00 PM

Project Description
Grandview Commons Town Center
Location: Sharpsburg Drive
Cross Street: Gemini Drive/access
City of Madison, Dane County, WI

Design Hour Turning Movement Data



Mary Greuel
KL Engineering

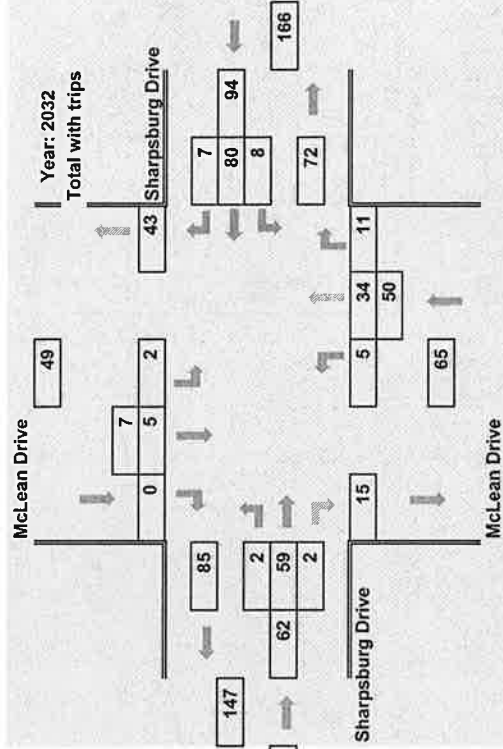
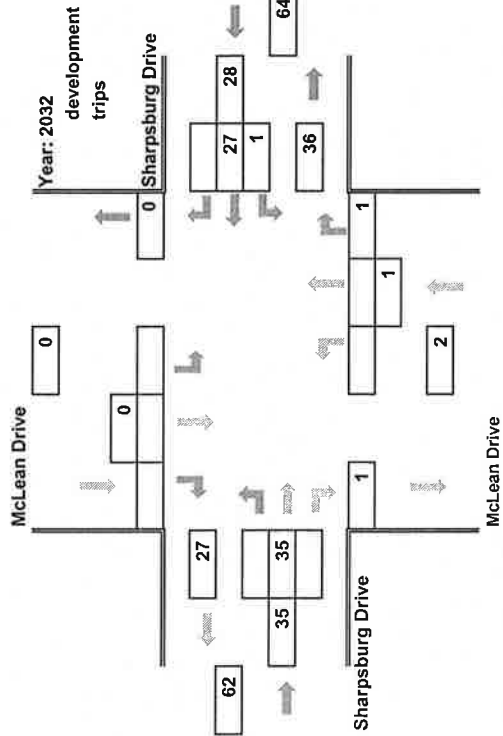
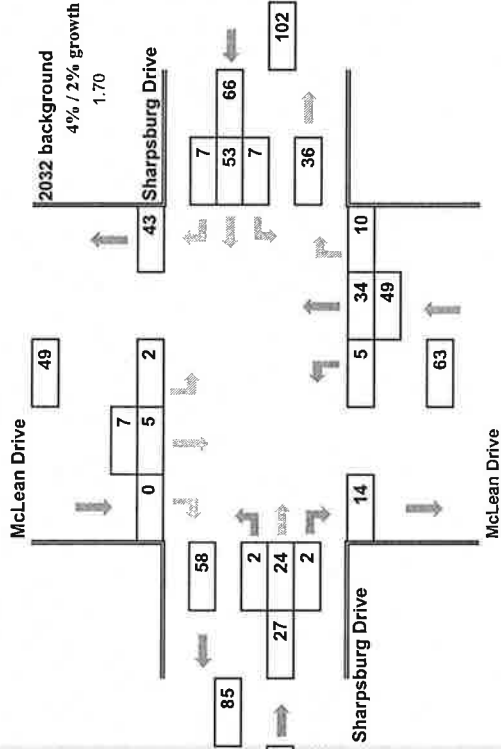
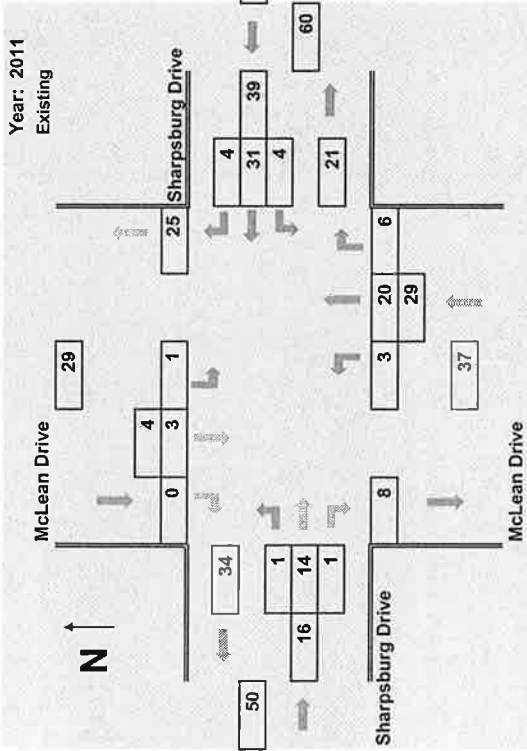
2032 Projected PM Design Hour Traffic Volumes With Added Development Trips

Design Hour: 5:00-6:00 PM

Project Description

Grandview Commons Town Center
Location: Sharsburg Drive
Cross Street: McLean Drive
City of Madison, Dane County, WI

Design Hour Turning Movement Data



KL Engineering, Inc.

5950 Seminole Centre Court, Suite 200
Madison, WI 53711

Cottage Grove Road & North Star Drive
7:00 - 9:00 AM
Madison, Dane County, WI
Grandview Commons Town Center

File Name : am cottage grove rd. & north star dr.
Site Code : 111001AM
Start Date : 10/19/2011
Page No : 1

Groups Printed- Cars - Trucks - Buses - Bicycles

| Start Time | North Star Dr. From North | | | | | Cottage Grove Road From East | | | | | private From South | | | | | Cottage Grove Road From West | | | | | Int. Total |
|-------------|------------------------------|------|------|------|------------|---------------------------------|------|------|------|------------|-----------------------|------|------|------|------------|---------------------------------|------|------|------|------------|------------|
| | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | |
| 07:00 AM | 63 | 0 | 4 | 0 | 67 | 3 | 149 | 0 | 0 | 152 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 5 | 0 | 36 | 255 |
| 07:15 AM | 56 | 0 | 2 | 0 | 58 | 5 | 210 | 0 | 0 | 215 | 0 | 0 | 0 | 0 | 0 | 0 | 49 | 10 | 0 | 59 | 332 |
| 07:30 AM | 54 | 0 | 3 | 0 | 57 | 5 | 221 | 0 | 0 | 226 | 0 | 0 | 0 | 0 | 0 | 0 | 56 | 27 | 0 | 83 | 366 |
| 07:45 AM | 63 | 0 | 3 | 0 | 66 | 2 | 212 | 1 | 0 | 215 | 0 | 0 | 1 | 0 | 1 | 0 | 53 | 18 | 0 | 71 | 353 |
| Total | 236 | 0 | 12 | 0 | 248 | 15 | 792 | 1 | 0 | 808 | 0 | 0 | 1 | 0 | 1 | 0 | 189 | 60 | 0 | 249 | 1306 |
| 08:00 AM | 49 | 0 | 3 | 0 | 52 | 5 | 167 | 0 | 0 | 172 | 0 | 0 | 0 | 0 | 0 | 0 | 51 | 17 | 0 | 68 | 292 |
| 08:15 AM | 47 | 0 | 2 | 0 | 49 | 3 | 98 | 0 | 0 | 101 | 0 | 0 | 0 | 0 | 0 | 0 | 61 | 14 | 0 | 75 | 225 |
| 08:30 AM | 30 | 0 | 1 | 0 | 31 | 2 | 87 | 0 | 0 | 89 | 0 | 0 | 1 | 1 | 2 | 1 | 56 | 10 | 0 | 67 | 189 |
| 08:45 AM | 35 | 0 | 1 | 0 | 36 | 9 | 99 | 0 | 0 | 108 | 0 | 0 | 0 | 0 | 0 | 0 | 44 | 22 | 0 | 66 | 210 |
| Total | 161 | 0 | 7 | 0 | 168 | 19 | 451 | 0 | 0 | 470 | 0 | 0 | 1 | 1 | 2 | 1 | 212 | 63 | 0 | 276 | 916 |
| Grand Total | 397 | 0 | 19 | 0 | 416 | 34 | 1243 | 1 | 0 | 1278 | 0 | 0 | 2 | 1 | 3 | 1 | 401 | 123 | 0 | 525 | 2222 |
| Apprch % | 95.4 | 0 | 4.6 | 0 | | 2.7 | 97.3 | 0.1 | 0 | | 0 | 0 | 66.7 | 33.3 | | 0.2 | 76.4 | 23.4 | 0 | | |
| Total % | 17.9 | 0 | 0.9 | 0 | 18.7 | 1.5 | 55.9 | 0 | 0 | 57.5 | 0 | 0 | 0.1 | 0 | 0.1 | 0 | 18 | 5.5 | 0 | 23.6 | |
| Cars | 391 | 0 | 18 | 0 | 409 | 34 | 1220 | 1 | 0 | 1255 | 0 | 0 | 2 | 1 | 3 | 1 | 389 | 120 | 0 | 510 | 2177 |
| % Cars | 98.5 | 0 | 94.7 | 0 | 98.3 | 100 | 98.1 | 100 | 0 | 98.2 | 0 | 0 | 100 | 100 | 100 | 100 | 97 | 97.6 | 0 | 97.1 | 98 |
| Trucks | 1 | 0 | 0 | 0 | 1 | 0 | 9 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 1 | 0 | 6 | 16 |
| % Trucks | 0.3 | 0 | 0 | 0 | 0.2 | 0 | 0.7 | 0 | 0 | 0.7 | 0 | 0 | 0 | 0 | 0 | 0 | 1.2 | 0.8 | 0 | 1.1 | 0.7 |
| Buses | 3 | 0 | 1 | 0 | 4 | 0 | 13 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 2 | 0 | 9 | 26 |
| % Buses | 0.8 | 0 | 5.3 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1.7 | 1.6 | 0 | 1.7 | 1.2 |
| Bicycles | 2 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| % Bicycles | 0.5 | 0 | 0 | 0 | 0.5 | 0 | 0.1 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 |

Queues observed

SB RT 11 max 7:45

LT 1 max

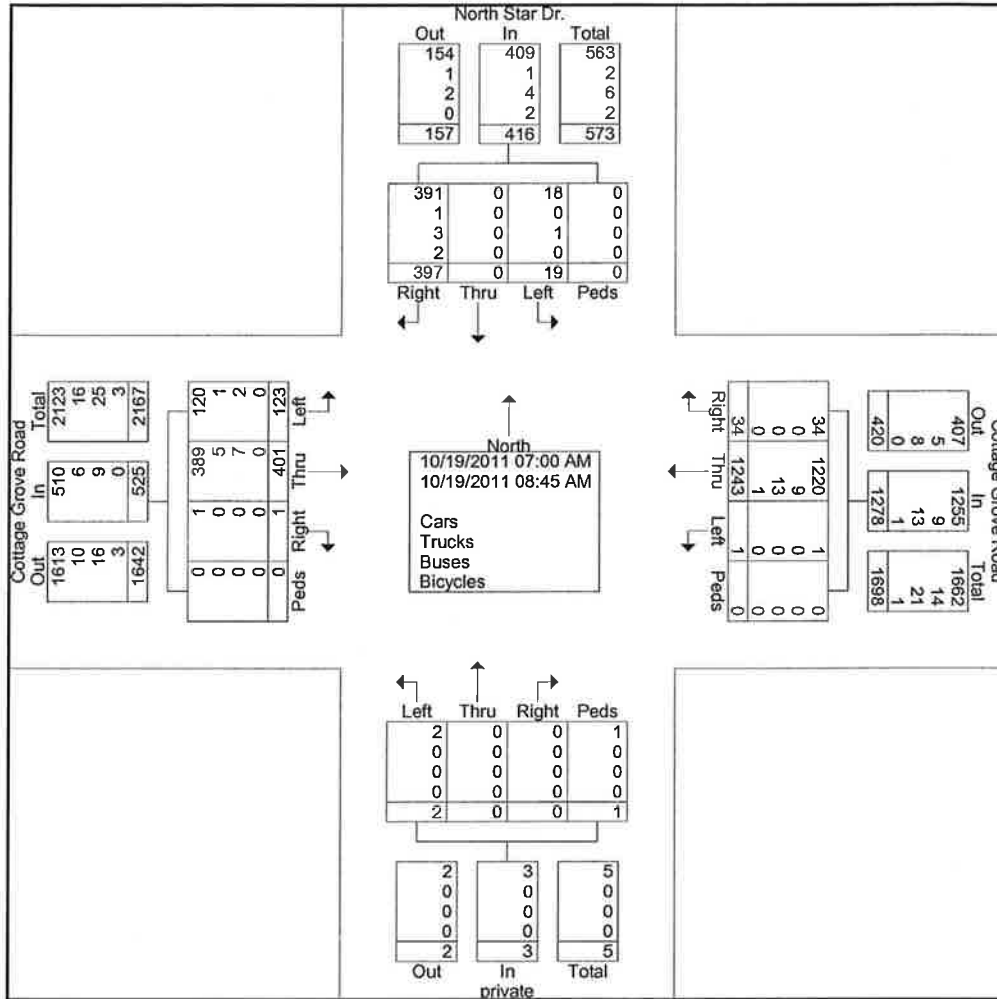
EB LT 3 max

KL Engineering, Inc.

5950 Seminole Centre Court, Suite 200
Madison, WI 53711

Cottage Grove Road & North Star Drive
7:00 - 9:00 AM
Madison, Dane County, WI
Grandview Commons Town Center

File Name : am cottage grove rd. & north star dr.
Site Code : 111001AM
Start Date : 10/19/2011
Page No : 2



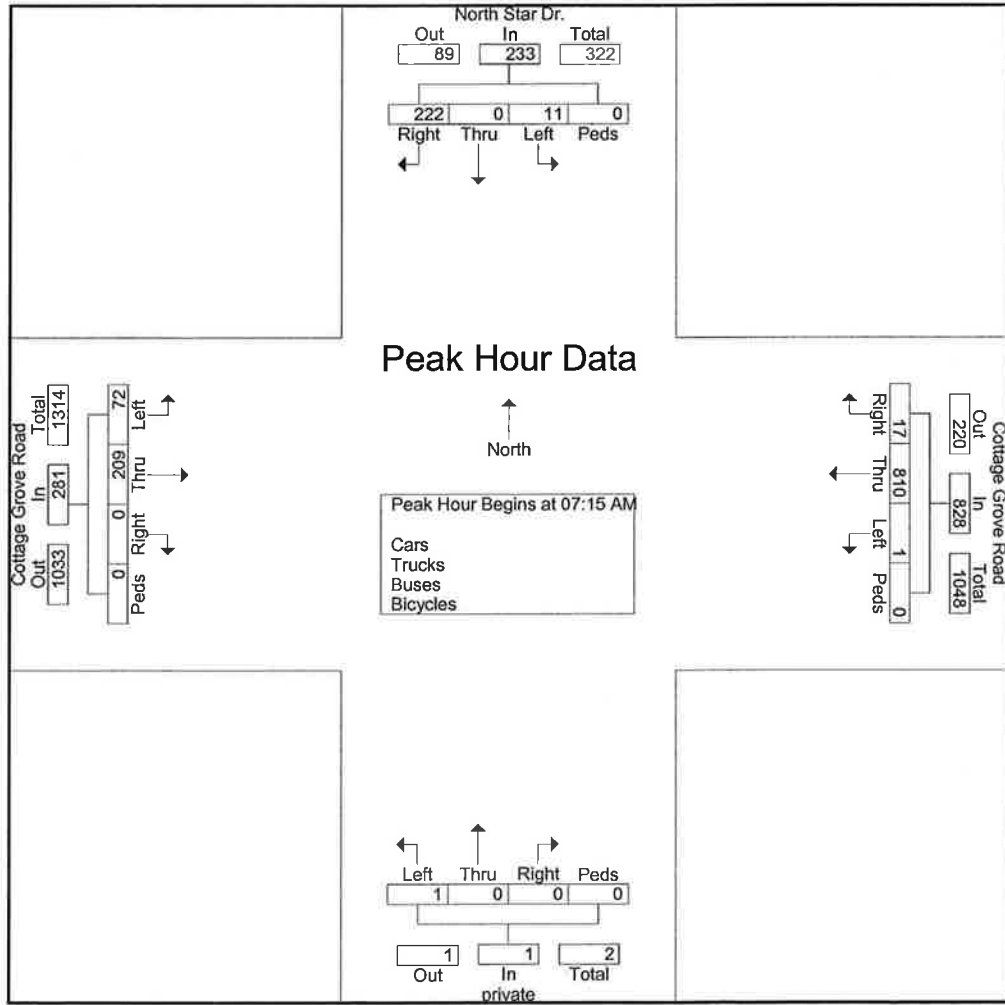
KL Engineering, Inc.

5950 Seminole Centre Court, Suite 200
Madison, WI 53711

Cottage Grove Road & North Star Drive
7:00 - 9:00 AM
Madison, Dane County, WI
Grandview Commons Town Center

File Name : am cottage grove rd. & north star dr.
Site Code : 111001AM
Start Date : 10/19/2011
Page No : 3

| Start Time | North Star Dr. From North | | | | | Cottage Grove Road From East | | | | | private From South | | | | | Cottage Grove Road From West | | | | | Int. Total |
|--|------------------------------|------|------|------|------------|---------------------------------|------|------|------|------------|-----------------------|------|------|------|------------|---------------------------------|------|------|------|------------|------------|
| | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | |
| Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 07:15 AM | | | | | | | | | | | | | | | | | | | | | |
| 07:15 AM | 56 | 0 | 2 | 0 | 58 | 5 | 210 | 0 | 0 | 215 | 0 | 0 | 0 | 0 | 0 | 0 | 49 | 10 | 0 | 59 | 332 |
| 07:30 AM | 54 | 0 | 3 | | | | 221 | | | 226 | 0 | 0 | 0 | 0 | 0 | 0 | 56 | 27 | | 83 | 366 |
| 07:45 AM | 63 | | | | 66 | 2 | 212 | 1 | | | | | 1 | 0 | 1 | 0 | 53 | 18 | 0 | 71 | 353 |
| 08:00 AM | 49 | 0 | 3 | 0 | 52 | 5 | 167 | 0 | 0 | 172 | 0 | 0 | 0 | 0 | 0 | 0 | 51 | 17 | 0 | 68 | 292 |
| Total Volume | 222 | 0 | 11 | 0 | 233 | 17 | 810 | 1 | 0 | 828 | 0 | 0 | 1 | 0 | 1 | 0 | 209 | 72 | 0 | 281 | 1343 |
| % App. Total | 95.3 | 0 | 4.7 | 0 | | 2.1 | 97.8 | 0.1 | 0 | | 0 | 0 | 100 | 0 | | 0 | 74.4 | 25.6 | 0 | | |
| PHF | .881 | .000 | .917 | .000 | .883 | .850 | .916 | .250 | .000 | .916 | .000 | .000 | .250 | .000 | .250 | .000 | .933 | .667 | .000 | .846 | .917 |



KL Engineering, Inc.

5950 Seminole Centre Court, Suite 200
Madison, WI 53711

Cottage Grove Road & North Star Drive
4:00 - 6:00 PM
Madison, Dane County, WI
Grandview Commons Town Center

File Name : PM North Star & Cottage Grove Rd.
Site Code : 111001PM
Start Date : 10/25/2011
Page No : 1

Groups Printed- Cars - Trucks - Buses - Bicycles

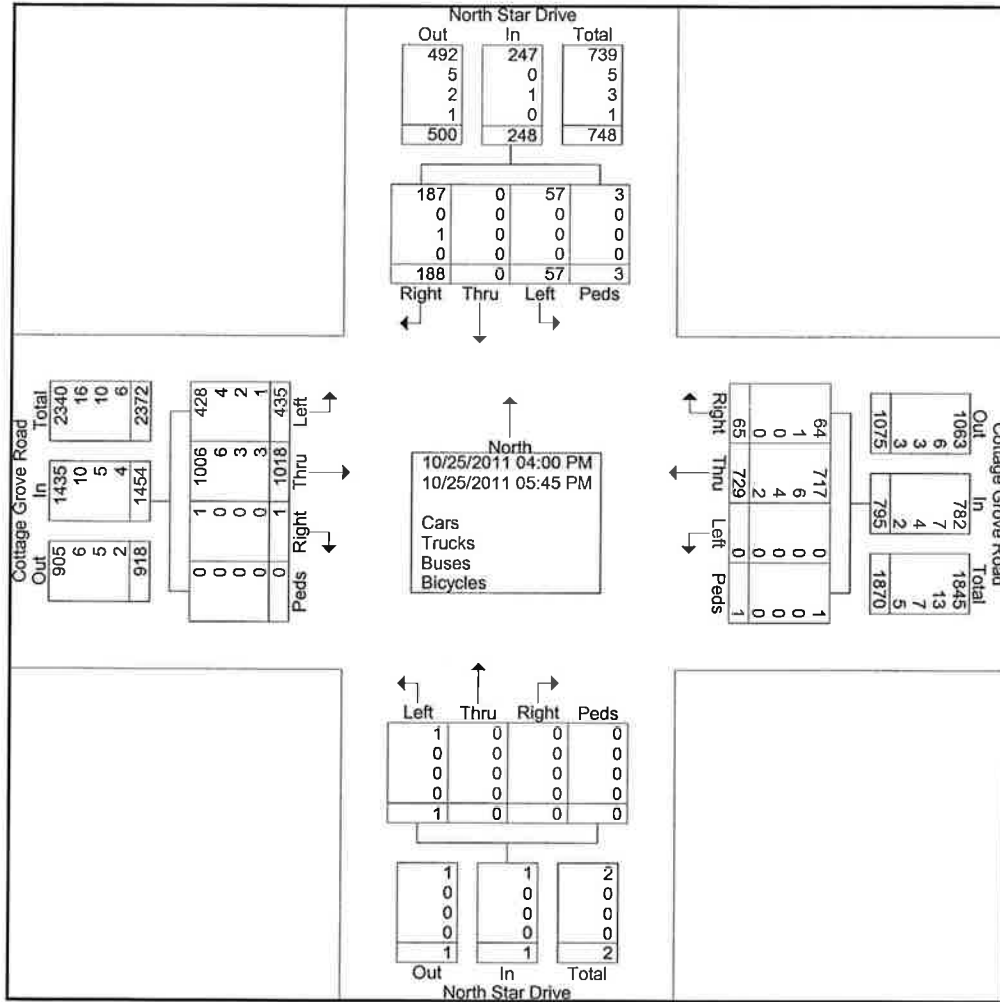
| Start Time | North Star Drive From North | | | | | Cottage Grove Road From East | | | | | North Star Drive From South | | | | | Cottage Grove Road From West | | | | | Int. Total |
|-------------|-----------------------------|------|------|------|------------|------------------------------|------|------|------|------------|-----------------------------|------|------|------|------------|------------------------------|------|------|------|------------|------------|
| | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | |
| 04:00 PM | 18 | 0 | 4 | 1 | 23 | 3 | 82 | 0 | 0 | 85 | 0 | 0 | 0 | 0 | 0 | 0 | 114 | 46 | 0 | 160 | 268 |
| 04:15 PM | 26 | 0 | 9 | 1 | 36 | 5 | 75 | 0 | 0 | 80 | 0 | 0 | 0 | 0 | 0 | 0 | 123 | 42 | 0 | 165 | 281 |
| 04:30 PM | 30 | 0 | 5 | 1 | 36 | 4 | 90 | 0 | 0 | 94 | 0 | 0 | 0 | 0 | 0 | 0 | 142 | 53 | 0 | 195 | 325 |
| 04:45 PM | 25 | 0 | 9 | 0 | 34 | 10 | 95 | 0 | 1 | 106 | 0 | 0 | 0 | 0 | 0 | 0 | 118 | 53 | 0 | 171 | 311 |
| Total | 99 | 0 | 27 | 3 | 129 | 22 | 342 | 0 | 1 | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 497 | 194 | 0 | 691 | 1185 |
| | | | 162 | | | | | | | | | | | | | | | | | | |
| 05:00 PM | 21 | 0 | 8 | 0 | 29 | 8 | 107 | 0 | 0 | 115 | 0 | 0 | 0 | 0 | 0 | 0 | 147 | 39 | 0 | 186 | 330 |
| 05:15 PM | 18 | 0 | 8 | 0 | 26 | 6 | 95 | 0 | 0 | 101 | 0 | 0 | 0 | 0 | 0 | 1 | 149 | 63 | 0 | 213 | 340 |
| 05:30 PM | 21 | 0 | 11 | 0 | 32 | 12 | 94 | 0 | 0 | 106 | 0 | 0 | 0 | 0 | 0 | 0 | 115 | 77 | 0 | 192 | 330 |
| 05:45 PM | 29 | 0 | 3 | 0 | 32 | 17 | 91 | 0 | 0 | 108 | 0 | 0 | 1 | 0 | 1 | 0 | 110 | 62 | 0 | 172 | 313 |
| Total | 89 | 0 | 30 | 0 | 119 | 43 | 387 | 0 | 0 | 430 | 0 | 0 | 1 | 0 | 1 | 1 | 521 | 241 | 0 | 763 | 1313 |
| | | | 166 | | | | | | | | | | | | | | | | | | |
| Grand Total | 188 | 0 | 57 | 3 | 248 | 65 | 729 | 0 | 1 | 795 | 0 | 0 | 1 | 0 | 1 | 1 | 1018 | 435 | 0 | 1454 | 2498 |
| Apprch % | 75.8 | 0 | 23 | 1.2 | | 8.2 | 91.7 | 0 | 0.1 | | 0 | 0 | 100 | 0 | | 0.1 | 70 | 29.9 | 0 | | |
| Total % | 7.5 | 0 | 2.3 | 0.1 | 9.9 | 2.6 | 29.2 | 0 | 0 | 31.8 | 0 | 0 | 0 | 0 | 0 | 0 | 40.8 | 17.4 | 0 | 58.2 | |
| Cars | 187 | 0 | 57 | 3 | 247 | 64 | 717 | 0 | 1 | 782 | 0 | 0 | 1 | 0 | 1 | 1 | 1006 | 428 | 0 | 1435 | 2465 |
| % Cars | 99.5 | 0 | 100 | 100 | 99.6 | 98.5 | 98.4 | 0 | 100 | 98.4 | 0 | 0 | 100 | 0 | 100 | 100 | 98.8 | 98.4 | 0 | 98.7 | 98.7 |
| Trucks | 0 | 0 | 0 | 0 | 0 | 1 | 6 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 4 | 0 | 10 | 17 |
| % Trucks | 0 | 0 | 0 | 0 | 0 | 1.5 | 0.8 | 0 | 0 | 0.9 | 0 | 0 | 0 | 0 | 0 | 0 | 0.6 | 0.9 | 0 | 0.7 | 0.7 |
| Buses | 1 | 0 | 0 | 0 | 1 | 0 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 0 | 5 | 10 |
| % Buses | 0.5 | 0 | 0 | 0 | 0.4 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.5 | 0 | 0.3 | 0.4 |
| Bicycles | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 4 | 6 |
| % Bicycles | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0 | 0 | 0.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.2 | 0 | 0.3 | 0.2 |

KL Engineering, Inc.

5950 Seminole Centre Court, Suite 200
Madison, WI 53711

Cottage Grove Road & North Star Drive
4:00 - 6:00 PM
Madison, Dane County, WI
Grandview Commons Town Center

File Name : PM North Star & Cottage Grove Rd.
Site Code : 111001PM
Start Date : 10/25/2011
Page No : 2



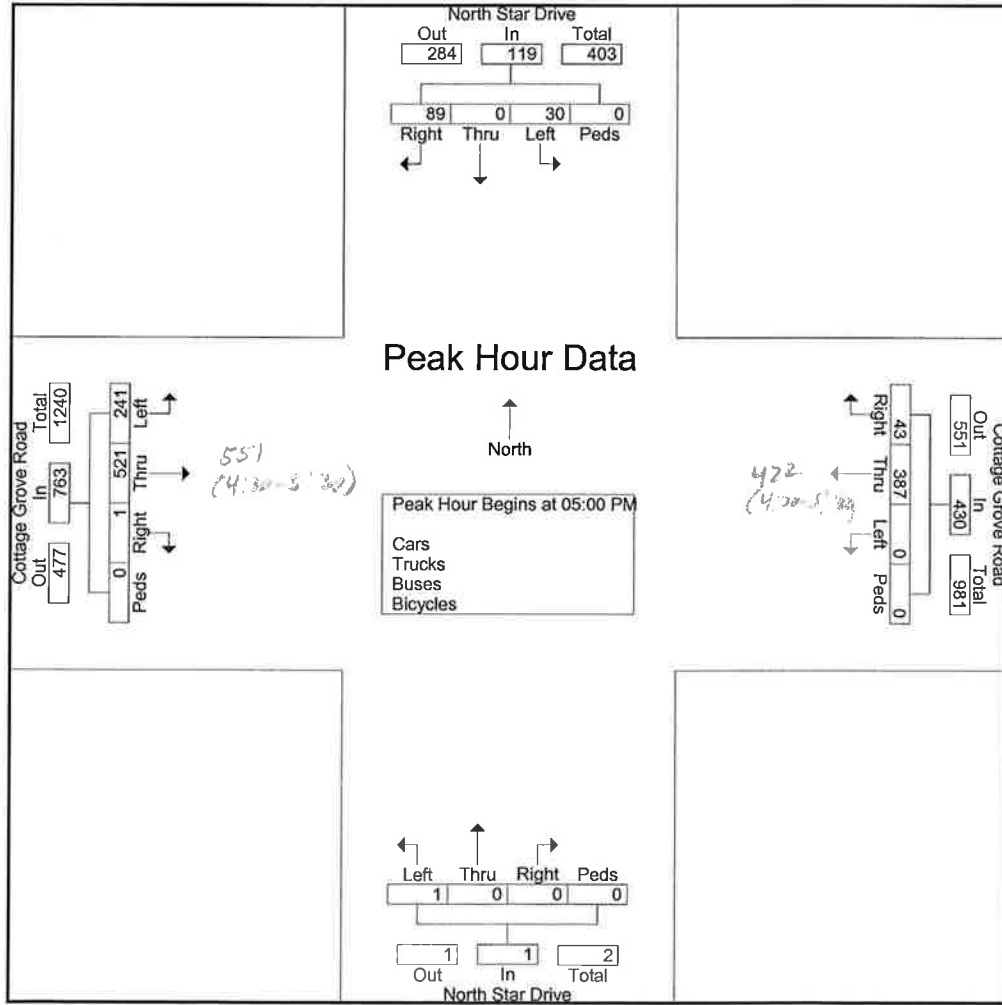
KL Engineering, Inc.

5950 Seminole Centre Court, Suite 200
Madison, WI 53711

Cottage Grove Road & North Star Drive
4:00 - 6:00 PM
Madison, Dane County, WI
Grandview Commons Town Center

File Name : PM North Star & Cottage Grove Rd.
Site Code : 111001PM
Start Date : 10/25/2011
Page No : 3

| Start Time | North Star Drive From North | | | | | Cottage Grove Road From East | | | | | North Star Drive From South | | | | | Cottage Grove Road From West | | | | | Int. Total |
|--|-----------------------------|----------|----------|----------|------------|------------------------------|-----------|----------|----------|------------|-----------------------------|----------|----------|----------|------------|------------------------------|------------|-----------|----------|------------|------------|
| | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | |
| Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 05:00 PM | | | | | | | | | | | | | | | | | | | | | |
| 05:00 PM | 21 | 0 | 8 | 0 | 29 | 8 | 107 | | | 115 | 0 | 0 | 0 | 0 | 0 | 0 | 147 | 39 | 0 | 186 | 330 |
| 05:15 PM | 18 | 0 | 8 | 0 | 26 | 6 | 95 | 0 | 0 | 101 | 0 | 0 | 0 | 0 | 0 | 1 | 149 | 63 | 0 | 213 | 340 |
| 05:30 PM | 21 | 0 | 11 | | 32 | 12 | 94 | 0 | 0 | 106 | 0 | 0 | 0 | 0 | 0 | 0 | 115 | 77 | | | |
| 05:45 PM | 29 | 0 | 3 | 0 | 32 | 17 | 91 | 0 | 0 | 108 | 0 | 0 | 1 | 0 | 1 | 0 | 110 | 62 | 0 | 172 | 313 |
| Total Volume | 89 | 0 | 30 | 0 | 119 | 43 | 387 | 0 | 0 | 430 | 0 | 0 | 1 | 0 | 1 | 1 | 521 | 241 | 0 | 763 | 1313 |
| % App. Total | 74.8 | 0 | 25.2 | 0 | | 10 | 90 | 0 | 0 | | 0 | 0 | 100 | 0 | | 0.1 | 68.3 | 31.6 | 0 | | |
| PHF | .767 | .000 | .682 | .000 | .930 | .632 | .904 | .000 | .000 | .935 | .000 | .000 | .250 | .000 | .250 | .250 | .874 | .782 | .000 | .896 | .965 |



KL Engineering, Inc.

5950 Seminole Centre Court, Suite 200
Madison, WI 53711

Cottage Grove Road & McLean Drive
7:00 - 9:00 AM
Madison, Dane County, WI
Grandview Commons Town Center

File Name : AM Cottage Grove Rd & McClean Rd
Site Code : 111002AM
Start Date : 10/20/2011
Page No : 1

Groups Printed- Cars - Trucks - Buses - Bicycles

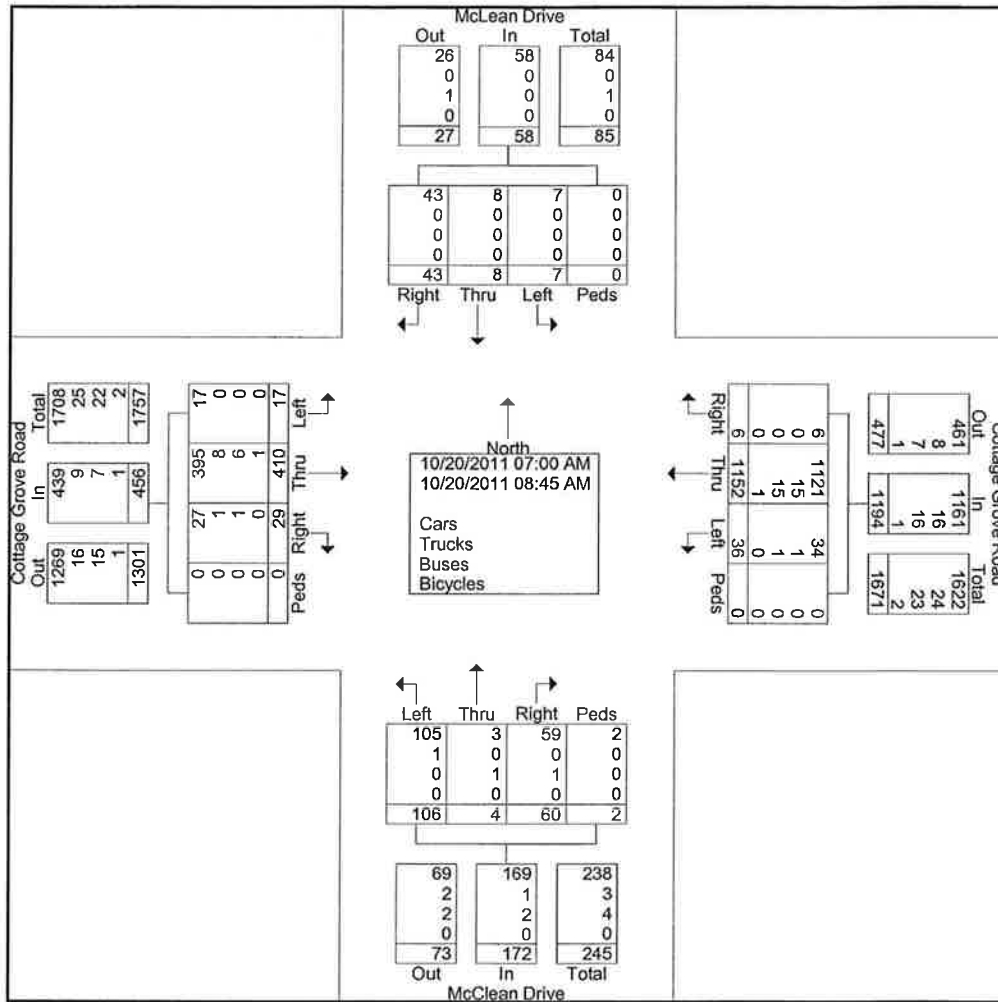
| Start Time | McLean Drive From North | | | | | Cottage Grove Road From East | | | | | McClean Drive From South | | | | | Cottage Grove Road From West | | | | | Int. Total |
|-------------|-------------------------|------|------|------|------------|------------------------------|------|------|------|------------|--------------------------|------|------|------|------------|------------------------------|------|------|------|------------|------------|
| | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | |
| 07:00 AM | 13 | 1 | 1 | 0 | 15 | 0 | 142 | 5 | 0 | 147 | 8 | 1 | 15 | 0 | 24 | 2 | 33 | 0 | 0 | 35 | 221 |
| 07:15 AM | 4 | 1 | 0 | 0 | 5 | 1 | 194 | 2 | 0 | 197 | 7 | 0 | 17 | 1 | 25 | 3 | 47 | 2 | 0 | 52 | 279 |
| 07:30 AM | 7 | 0 | 2 | 0 | 9 | 1 | 203 | 4 | 0 | 208 | 7 | 1 | 18 | 0 | 26 | 2 | 64 | 1 | 0 | 67 | 310 |
| 07:45 AM | 3 | 2 | 0 | 0 | 5 | 1 | 196 | 5 | 0 | 202 | 8 | 0 | 14 | 0 | 22 | 4 | 66 | 2 | 0 | 72 | 301 |
| Total | 27 | 4 | 3 | 0 | 34 | 3 | 735 | 16 | 0 | 754 | 30 | 2 | 64 | 1 | 97 | 11 | 210 | 5 | 0 | 226 | 1111 |
| 08:00 AM | 8 | 3 | 2 | 0 | 13 | 1 | 155 | 4 | 0 | 160 | 8 | 0 | 15 | 0 | 23 | 4 | 50 | 1 | 0 | 55 | 251 |
| 08:15 AM | 4 | 0 | 1 | 0 | 5 | 2 | 94 | 4 | 0 | 100 | 3 | 1 | 10 | 0 | 14 | 7 | 44 | 5 | 0 | 56 | 175 |
| 08:30 AM | 1 | 0 | 1 | 0 | 2 | 0 | 85 | 1 | 0 | 86 | 7 | 0 | 12 | 1 | 20 | 3 | 52 | 3 | 0 | 58 | 166 |
| 08:45 AM | 3 | 1 | 0 | 0 | 4 | 0 | 83 | 11 | 0 | 94 | 12 | 1 | 5 | 0 | 18 | 4 | 54 | 3 | 0 | 61 | 177 |
| Total | 16 | 4 | 4 | 0 | 24 | 3 | 417 | 20 | 0 | 440 | 30 | 2 | 42 | 1 | 75 | 18 | 200 | 12 | 0 | 230 | 769 |
| Grand Total | 43 | 8 | 7 | 0 | 58 | 6 | 1152 | 36 | 0 | 1194 | 60 | 4 | 106 | 2 | 172 | 29 | 410 | 17 | 0 | 456 | 1880 |
| Aprch % | 74.1 | 13.8 | 12.1 | 0 | | 0.5 | 96.5 | 3 | 0 | | 34.9 | 2.3 | 61.6 | 1.2 | | 6.4 | 89.9 | 3.7 | 0 | | |
| Total % | 2.3 | 0.4 | 0.4 | 0 | 3.1 | 0.3 | 61.3 | 1.9 | 0 | 63.5 | 3.2 | 0.2 | 5.6 | 0.1 | 9.1 | 1.5 | 21.8 | 0.9 | 0 | 24.3 | |
| Cars | 43 | 8 | 7 | 0 | 58 | 6 | 1121 | 34 | 0 | 1161 | 59 | 3 | 105 | 2 | 169 | 27 | 395 | 17 | 0 | 439 | 1827 |
| % Cars | 100 | 100 | 100 | 0 | 100 | 100 | 97.3 | 94.4 | 0 | 97.2 | 98.3 | 75 | 99.1 | 100 | 98.3 | 93.1 | 96.3 | 100 | 0 | 96.3 | 97.2 |
| Trucks | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 1 | 0 | 16 | 0 | 0 | 1 | 0 | 1 | 1 | 8 | 0 | 0 | 9 | 26 |
| % Trucks | 0 | 0 | 0 | 0 | 0 | 0 | 1.3 | 2.8 | 0 | 1.3 | 0 | 0 | 0.9 | 0 | 0.6 | 3.4 | 2 | 0 | 0 | 2 | 1.4 |
| Buses | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 1 | 0 | 16 | 1 | 1 | 0 | 0 | 2 | 1 | 6 | 0 | 0 | 7 | 25 |
| % Buses | 0 | 0 | 0 | 0 | 0 | 0 | 1.3 | 2.8 | 0 | 1.3 | 1.7 | 25 | 0 | 0 | 1.2 | 3.4 | 1.5 | 0 | 0 | 1.5 | 1.3 |
| Bicycles | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| % Bicycles | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0 | 0 | 0.2 | 0.1 |

KL Engineering, Inc.

5950 Seminole Centre Court, Suite 200
Madison, WI 53711

Cottage Grove Road & McLean Drive
7:00 - 9:00 AM
Madison, Dane County, WI
Grandview Commons Town Center

File Name : AM Cottage Grove Rd & McClean Rd
Site Code : 111002AM
Start Date : 10/20/2011
Page No : 2



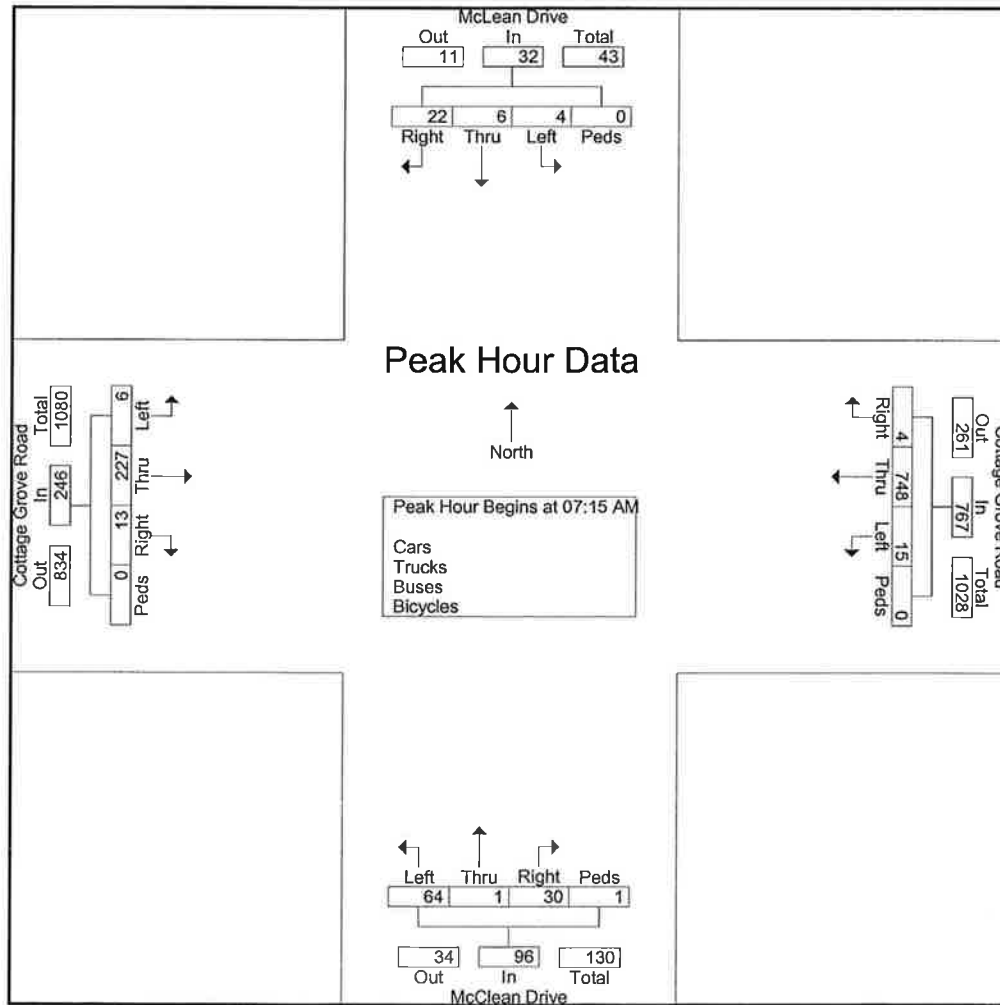
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Page No : 3

| Start Time | McLean Drive From North | | | | | Cottage Grove Road From East | | | | | McClellan Drive From South | | | | | Cottage Grove Road From West | | | | | Int. Total |
|--|-------------------------|------|------|------|------------|------------------------------|------|------|------|------------|----------------------------|------|------|------|------------|------------------------------|------|------|------|------------|------------|
| | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | |
| Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 07:15 AM | | | | | | | | | | | | | | | | | | | | | |
| 07:15 AM | 4 | 1 | 0 | 0 | 5 | 1 | 194 | 2 | 0 | 197 | 7 | 0 | 17 | 1 | 25 | | | | | | |
| 07:30 AM | 7 | 0 | 2 | 0 | 9 | 1 | 203 | 4 | 0 | 208 | 7 | 1 | 18 | 0 | 26 | 2 | 64 | 1 | 0 | 67 | 310 |
| 07:45 AM | 3 | 2 | 0 | 0 | 5 | 1 | 196 | 5 | 0 | 201 | 8 | 0 | 15 | 0 | 23 | 4 | 66 | 2 | 0 | 72 | 301 |
| 08:00 AM | 8 | 3 | 2 | 0 | 13 | 1 | 155 | 4 | 0 | 160 | 8 | 0 | 15 | 0 | 23 | 4 | 50 | 1 | 0 | 55 | 251 |
| Total Volume | 22 | 6 | 4 | 0 | 32 | 4 | 748 | 15 | 0 | 767 | 30 | 1 | 64 | 1 | 96 | 13 | 227 | 6 | 0 | 246 | 1141 |
| % App. Total | 68.8 | 18.8 | 12.5 | 0 | | 0.5 | 97.5 | 2 | 0 | | 31.2 | 1 | 66.7 | 1 | | 5.3 | 92.3 | 2.4 | 0 | | |
| PHF | .688 | .500 | .500 | .000 | .615 | 1.00 | .921 | .750 | .000 | .922 | .938 | .250 | .889 | .250 | .923 | .813 | .860 | .750 | .000 | .854 | .920 |



KL Engineering, Inc.

5950 Seminole Centre Court, Suite 200
Madison, WI 53711

Cottage Grove Road & McLean Drive
4:00 - 6:00 PM
Madison, Dane County, WI
Grandview Commons Town Center

File Name : PM Cottage Grove Rd - McLean Dr.
Site Code : 111002PM
Start Date : 10/20/2011
Page No : 1

Groups Printed- Cars - Trucks - Buses - Bicycles

| Start Time | McLean Drive From North | | | | | Cottage Grove Road From East | | | | | McLean Drive From South | | | | | Cottage Grove Road From West | | | | | Int. Total |
|--------------------|-------------------------|----------|----------|----------|------------|------------------------------|------------|-----------|----------|------------|-------------------------|-----------|-----------|----------|------------|------------------------------|-------------|-----------|----------|-------------|-------------|
| | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | |
| 04:00 PM | 1 | 1 | 1 | 0 | 3 | 1 | 90 | 17 | 2 | 110 | 10 | 3 | 3 | 0 | 16 | 9 | 108 | 5 | 1 | 123 | 252 |
| 04:15 PM | 2 | 2 | 1 | 0 | 5 | 2 | 117 | 4 | 0 | 123 | 6 | 4 | 5 | 0 | 15 | 15 | 126 | 2 | 0 | 143 | 286 |
| 04:30 PM | 3 | 0 | 0 | 0 | 3 | 1 | 101 | 11 | 1 | 114 | 5 | 1 | 6 | 0 | 12 | 13 | 153 | 5 | 0 | 171 | 300 |
| 04:45 PM | 7 | 1 | 0 | 0 | 8 | 4 | 107 | 10 | 0 | 121 | 7 | 1 | 11 | 0 | 19 | 19 | 125 | 7 | 0 | 151 | 299 |
| Total | 13 | 4 | 2 | 0 | 19 | 8 | 415 | 42 | 3 | 468 | 28 | 9 | 25 | 0 | 62 | 56 | 512 | 19 | 1 | 588 | 1137 |
| 05:00 PM | 1 | 1 | 1 | 0 | 3 | 1 | 120 | 4 | 0 | 125 | 12 | 0 | 11 | 0 | 23 | 19 | 151 | 6 | 1 | 177 | 328 |
| 05:15 PM | 6 | 0 | 2 | 0 | 8 | 0 | 96 | 10 | 0 | 106 | 4 | 3 | 8 | 0 | 15 | 17 | 148 | 6 | 0 | 171 | 300 |
| 05:30 PM | 2 | 2 | 2 | 0 | 6 | 2 | 82 | 8 | 0 | 92 | 9 | 4 | 8 | 0 | 21 | 7 | 110 | 10 | 0 | 127 | 246 |
| 05:45 PM | 4 | 0 | 1 | 0 | 5 | 3 | 99 | 7 | 0 | 109 | 8 | 2 | 6 | 0 | 16 | 11 | 101 | 1 | 0 | 113 | 243 |
| Total | 13 | 3 | 6 | 0 | 22 | 6 | 397 | 29 | 0 | 432 | 33 | 9 | 33 | 0 | 75 | 54 | 510 | 23 | 1 | 588 | 1117 |
| Grand Total | 26 | 7 | 8 | 0 | 41 | 14 | 812 | 71 | 3 | 900 | 61 | 18 | 58 | 0 | 137 | 110 | 1022 | 42 | 2 | 1176 | 2254 |
| Apprch % | 63.4 | 17.1 | 19.5 | 0 | | 1.6 | 90.2 | 7.9 | 0.3 | | 44.5 | 13.1 | 42.3 | 0 | | 9.4 | 86.9 | 3.6 | 0.2 | | |
| Total % | 1.2 | 0.3 | 0.4 | 0 | 1.8 | 0.6 | 36 | 3.1 | 0.1 | 39.9 | 2.7 | 0.8 | 2.6 | 0 | 6.1 | 4.9 | 45.3 | 1.9 | 0.1 | 52.2 | |
| Cars | 26 | 6 | 8 | 0 | 40 | 14 | 807 | 71 | 3 | 895 | 60 | 17 | 58 | 0 | 135 | 110 | 1015 | 42 | 2 | 1169 | 2239 |
| % Cars | 100 | 85.7 | 100 | 0 | 97.6 | 100 | 99.4 | 100 | 100 | 99.4 | 98.4 | 94.4 | 100 | 0 | 98.5 | 100 | 99.3 | 100 | 100 | 99.4 | 99.3 |
| Trucks | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 1 | 0 | 6 | 0 | 0 | 6 | 10 |
| % Trucks | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0 | 0 | 0.3 | 1.6 | 0 | 0 | 0 | 0.7 | 0 | 0.6 | 0 | 0 | 0.5 | 0.4 |
| Buses | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 3 |
| % Buses | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0 | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0.1 | 0.1 |
| Bicycles | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 |
| % Bicycles | 0 | 14.3 | 0 | 0 | 2.4 | 0 | 0 | 0 | 0 | 0 | 0 | 5.6 | 0 | 0 | 0.7 | 0 | 0 | 0 | 0 | 0 | 0.1 |

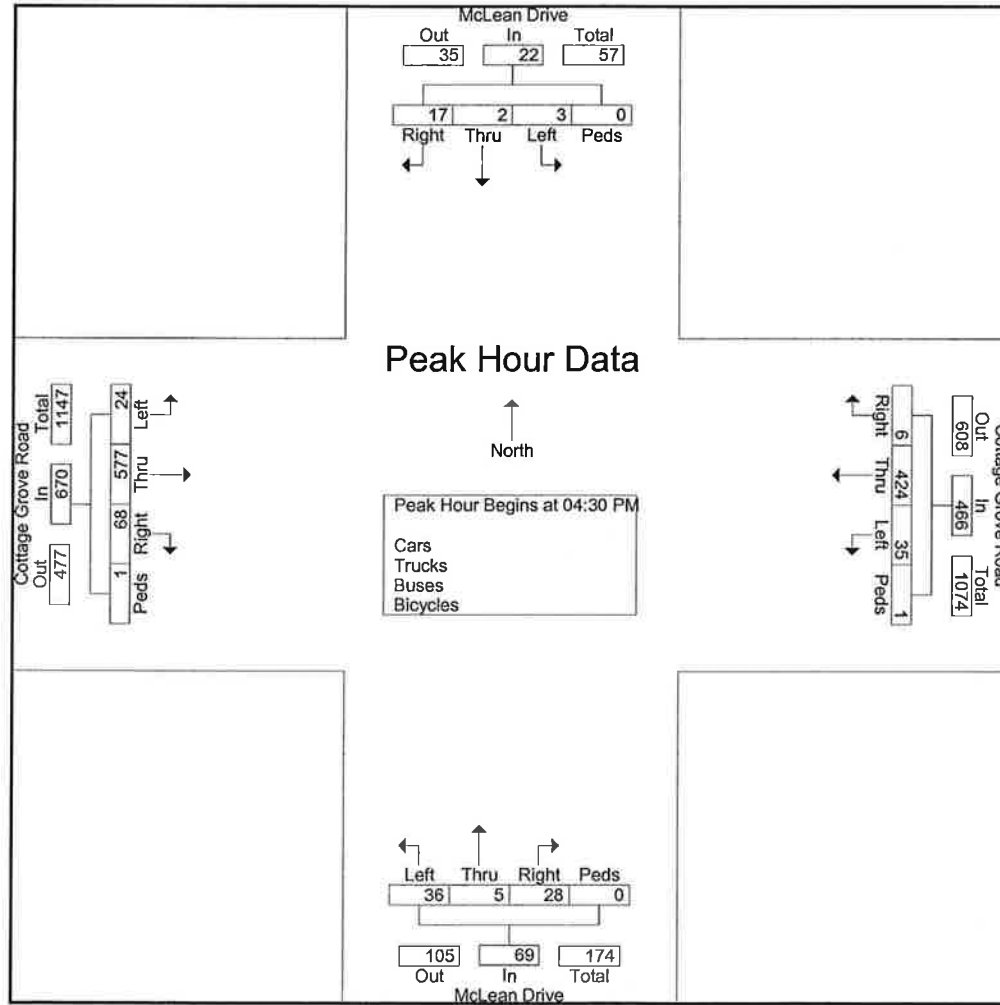
KL Engineering, Inc.

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Cottage Grove Road & McLean Drive
4:00 - 6:00 PM
Madison, Dane County, WI
Grandview Commons Town Center

File Name : PM Cottage Grove Rd - McLean Dr.
Site Code : 111002PM
Start Date : 10/20/2011
Page No : 3

| Start Time | McLean Drive From North | | | | | Cottage Grove Road From East | | | | | McLean Drive From South | | | | | Cottage Grove Road From West | | | | | Int. Total |
|--|-------------------------|------|------|------|------------|------------------------------|------|------|------|------------|-------------------------|------|------|------|------------|------------------------------|------|------|------|------------|------------|
| | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | |
| Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 04:30 PM | | | | | | | | | | | | | | | | | | | | | |
| 04:30 PM | 3 | 0 | 0 | 0 | 3 | 1 | 101 | 11 | 1 | 114 | 5 | 1 | 6 | 0 | 12 | 13 | 153 | 5 | 0 | 171 | 300 |
| 04:45 PM | 7 | 1 | 0 | 0 | 8 | 4 | 107 | 10 | 0 | 121 | 7 | 1 | 11 | 0 | 19 | 19 | | 7 | | | |
| 05:00 PM | 1 | 1 | 1 | 0 | 3 | 1 | 120 | 4 | 0 | 125 | 12 | 0 | 11 | 0 | 23 | 19 | 151 | 6 | 1 | 177 | 328 |
| 05:15 PM | 6 | 0 | 2 | | | | | | | | | 3 | | | | | | | | | |
| Total Volume | 17 | 2 | 3 | 0 | 22 | 6 | 424 | 35 | 1 | 466 | 28 | 5 | 36 | 0 | 69 | 68 | 577 | 24 | 1 | 670 | 1227 |
| % App. Total | 77.3 | 9.1 | 13.6 | 0 | | 1.3 | 91 | 7.5 | 0.2 | | 40.6 | 7.2 | 52.2 | 0 | | 10.1 | 86.1 | 3.6 | 0.1 | | |
| PHF | .607 | .500 | .375 | .000 | .688 | .375 | .883 | .795 | .250 | .932 | .583 | .417 | .818 | .000 | .750 | .895 | .943 | .857 | .250 | .946 | .935 |



KL Engineering, Inc.

5950 Seminole Centre Court, Suite 200
Madison, WI 53711

North Star Drive & Jupiter Drive
7:00 - 9:00 AM
Madison, Dane County, WI
Grandview Commons Town Center

File Name : North Star & Jupiter AM
Site Code : 111005AM
Start Date : 10/25/2011
Page No : 1

Groups Printed- Cars - Trucks - Buses - Bicycles

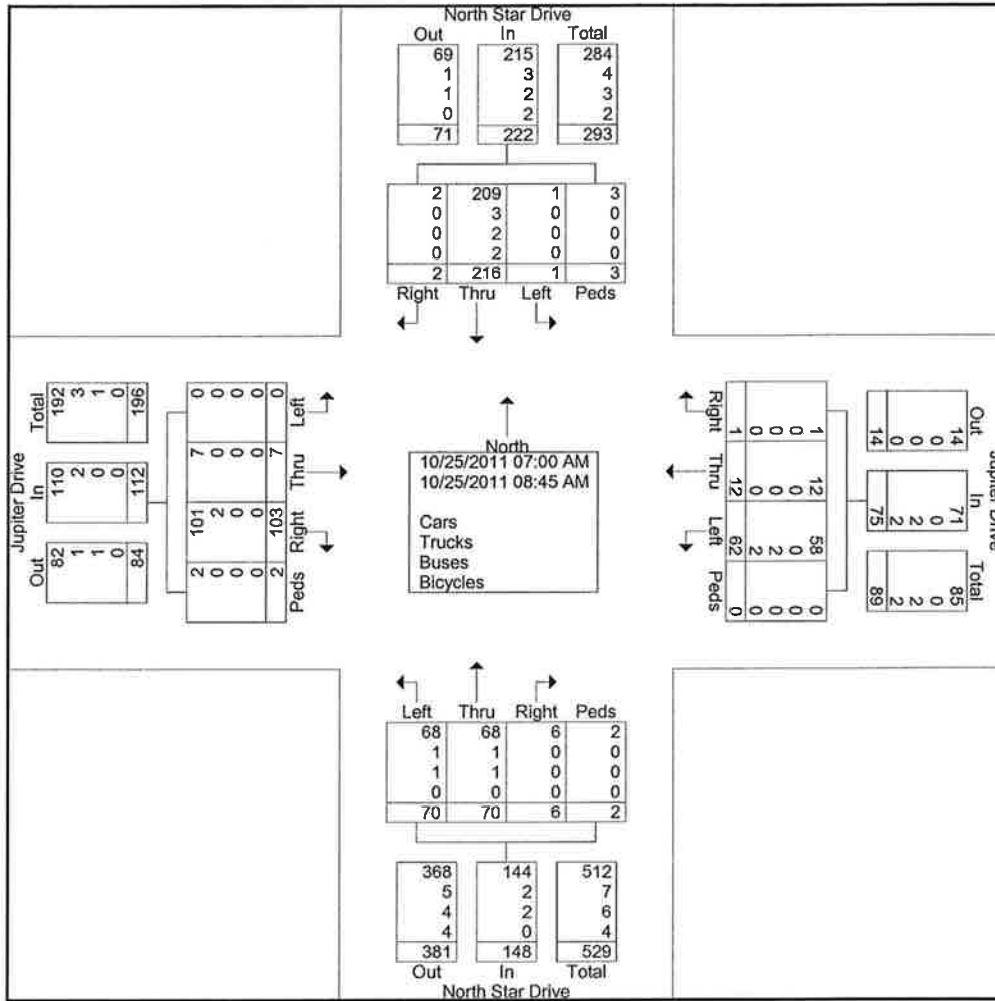
| Start Time | North Star Drive From North | | | | | <i>Sharktoys</i> Jupiter Drive From East | | | | | North Star Drive From South | | | | | Jupiter Drive From West | | | | | Int. Total |
|--------------------|--------------------------------|------------|----------|----------|------------|---|-----------|-----------|----------|------------|--------------------------------|-----------|-----------|----------|------------|----------------------------|----------|----------|----------|------------|------------|
| | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | |
| 07:00 AM | 0 | 36 | 0 | 0 | 36 | 1 | 1 | 13 | 0 | 15 | 0 | 6 | 9 | 0 | 15 | 14 | 2 | 0 | 0 | 16 | 82 |
| 07:15 AM | 1 | 38 | 0 | 0 | 39 | 0 | 2 | 10 | 0 | 12 | 2 | 7 | 13 | 0 | 22 | 11 | 0 | 0 | 0 | 11 | 84 |
| 07:30 AM | 0 | 37 | 0 | 0 | 37 | 0 | 2 | 5 | 0 | 7 | 3 | 10 | 9 | 0 | 22 | 20 | 2 | 0 | 0 | 22 | 88 |
| 07:45 AM | 0 | 31 | 1 | 0 | 32 | 0 | 2 | 9 | 0 | 11 | 1 | 11 | 9 | 0 | 21 | 15 | 1 | 0 | 0 | 16 | 80 |
| Total | 1 | 142 | 1 | 0 | 144 | 1 | 7 | 37 | 0 | 45 | 6 | 34 | 40 | 0 | 80 | 60 | 5 | 0 | 0 | 65 | 334 |
| 08:00 AM | 0 | 23 | 0 | 0 | 23 | 0 | 2 | 7 | 0 | 9 | 0 | 11 | 9 | 1 | 21 | 16 | 1 | 0 | 0 | 17 | 70 |
| 08:15 AM | 1 | 22 | 0 | 0 | 23 | 0 | 1 | 7 | 0 | 8 | 0 | 11 | 7 | 1 | 19 | 11 | 0 | 0 | 0 | 11 | 61 |
| 08:30 AM | 0 | 17 | 0 | 1 | 18 | 0 | 2 | 6 | 0 | 8 | 0 | 7 | 5 | 0 | 12 | 7 | 0 | 0 | 0 | 7 | 45 |
| 08:45 AM | 0 | 12 | 0 | 2 | 14 | 0 | 0 | 5 | 0 | 5 | 0 | 7 | 9 | 0 | 16 | 9 | 1 | 0 | 2 | 12 | 47 |
| Total | 1 | 74 | 0 | 3 | 78 | 0 | 5 | 25 | 0 | 30 | 0 | 36 | 30 | 2 | 68 | 43 | 2 | 0 | 2 | 47 | 223 |
| Grand Total | 2 | 216 | 1 | 3 | 222 | 1 | 12 | 62 | 0 | 75 | 6 | 70 | 70 | 2 | 148 | 103 | 7 | 0 | 2 | 112 | 557 |
| Apprch % | 0.9 | 97.3 | 0.5 | 1.4 | | 1.3 | 16 | 82.7 | 0 | | 4.1 | 47.3 | 47.3 | 1.4 | | 92 | 6.2 | 0 | 1.8 | | |
| Total % | 0.4 | 38.8 | 0.2 | 0.5 | 39.9 | 0.2 | 2.2 | 11.1 | 0 | 13.5 | 1.1 | 12.6 | 12.6 | 0.4 | 26.6 | 18.5 | 1.3 | 0 | 0.4 | 20.1 | |
| Cars | 2 | 209 | 1 | 3 | 215 | 1 | 12 | 58 | 0 | 71 | 6 | 68 | 68 | 2 | 144 | 101 | 7 | 0 | 2 | 110 | 540 |
| % Cars | 100 | 96.8 | 100 | 100 | 96.8 | 100 | 100 | 93.5 | 0 | 94.7 | 100 | 97.1 | 97.1 | 100 | 97.3 | 98.1 | 100 | 0 | 100 | 98.2 | 96.9 |
| Trucks | 0 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 2 | 0 | 0 | 0 | 2 | 7 |
| % Trucks | 0 | 1.4 | 0 | 0 | 1.4 | 0 | 0 | 0 | 0 | 0 | 0 | 1.4 | 1.4 | 0 | 1.4 | 1.9 | 0 | 0 | 0 | 1.8 | 1.3 |
| Buses | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 2 | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 6 |
| % Buses | 0 | 0.9 | 0 | 0 | 0.9 | 0 | 0 | 3.2 | 0 | 2.7 | 0 | 1.4 | 1.4 | 0 | 1.4 | 0 | 0 | 0 | 0 | 0 | 1.1 |
| Bicycles | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| % Bicycles | 0 | 0.9 | 0 | 0 | 0.9 | 0 | 0 | 3.2 | 0 | 2.7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.7 |

KL Engineering, Inc.

5950 Seminole Centre Court, Suite 200
Madison, WI 53711

North Star Drive & Jupiter Drive
7:00 - 9:00 AM
Madison, Dane County, WI
Grandview Commons Town Center

File Name : North Star & Jupiter AM
Site Code : 111005AM
Start Date : 10/25/2011
Page No : 2



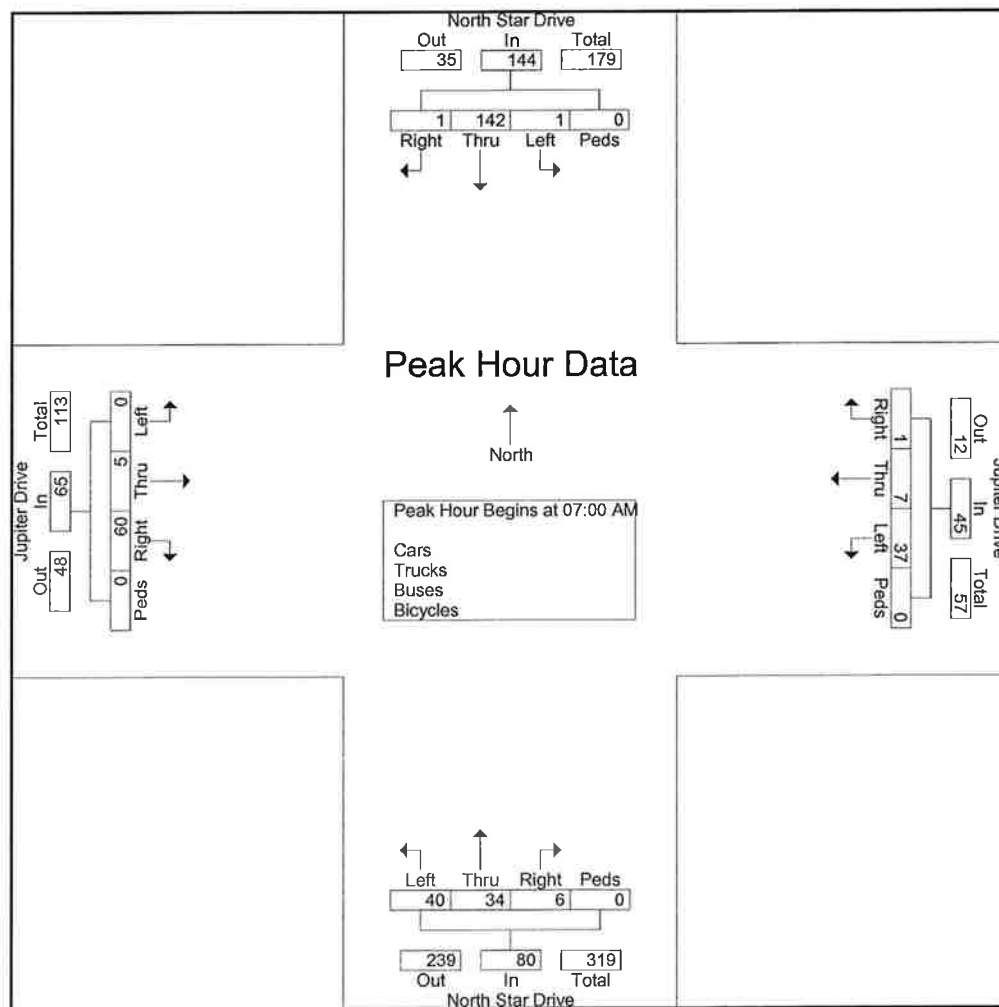
KL Engineering, Inc.

5950 Seminole Centre Court, Suite 200
Madison, WI 53711

North Star Drive & Jupiter Drive
7:00 - 9:00 AM
Madison, Dane County, WI
Grandview Commons Town Center

File Name : North Star & Jupiter AM
Site Code : 111005AM
Start Date : 10/25/2011
Page No : 3

| Start Time | North Star Drive From North | | | | | Jupiter Drive From East | | | | | North Star Drive From South | | | | | Jupiter Drive From West | | | | | Int. Total |
|--|-----------------------------|------|------|------|------------|-------------------------|------|------|------|------------|-----------------------------|------|------|------|------------|-------------------------|------|------|------|------------|------------|
| | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | |
| Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 07:00 AM | | | | | | | | | | | | | | | | | | | | | |
| 07:00 AM | 0 | 36 | 0 | 0 | 36 | 1 | 1 | 13 | 0 | 15 | 0 | 6 | 9 | 0 | 15 | 14 | 2 | 0 | 0 | 16 | 82 |
| 07:15 AM | 1 | 38 | 0 | 0 | 39 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 13 | 0 | 22 | 11 | 0 | 0 | 0 | 11 | 84 |
| 07:30 AM | 0 | 37 | 0 | 0 | 37 | 0 | 2 | 5 | 0 | 7 | 3 | 0 | 0 | 0 | 3 | 20 | 0 | 0 | 0 | 22 | 88 |
| 07:45 AM | 0 | 31 | 1 | 0 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 11 | 88 |
| Total Volume | 1 | 142 | 1 | 0 | 144 | 1 | 7 | 37 | 0 | 45 | 6 | 34 | 40 | 0 | 80 | 60 | 5 | 0 | 0 | 65 | 334 |
| % App. Total | 0.7 | 98.6 | 0.7 | 0 | 1.0 | 2.2 | 15.6 | 82.2 | 0 | 3.0 | 7.5 | 42.5 | 50 | 0 | 100 | 92.3 | 7.7 | 0 | 0 | 19.2 | 100 |
| PHF | .250 | .934 | .250 | .000 | .923 | .250 | .875 | .712 | .000 | .750 | .500 | .773 | .769 | .000 | .909 | .750 | .625 | .000 | .000 | .739 | .949 |



KL Engineering, Inc.

5950 Seminole Centre Court, Suite 200
Madison, WI 53711

North Star Dr & Sharpsburg/Jupiter Dr
4:00 - 6:00 pm
Madison, Dane County, WI
Grandview Commons Town Center

File Name : PM North Star Jupiter PM
Site Code : 111005PM
Start Date : 10/25/2011
Page No : 1

Groups Printed- Cars - Trucks - Buses - Bicycles

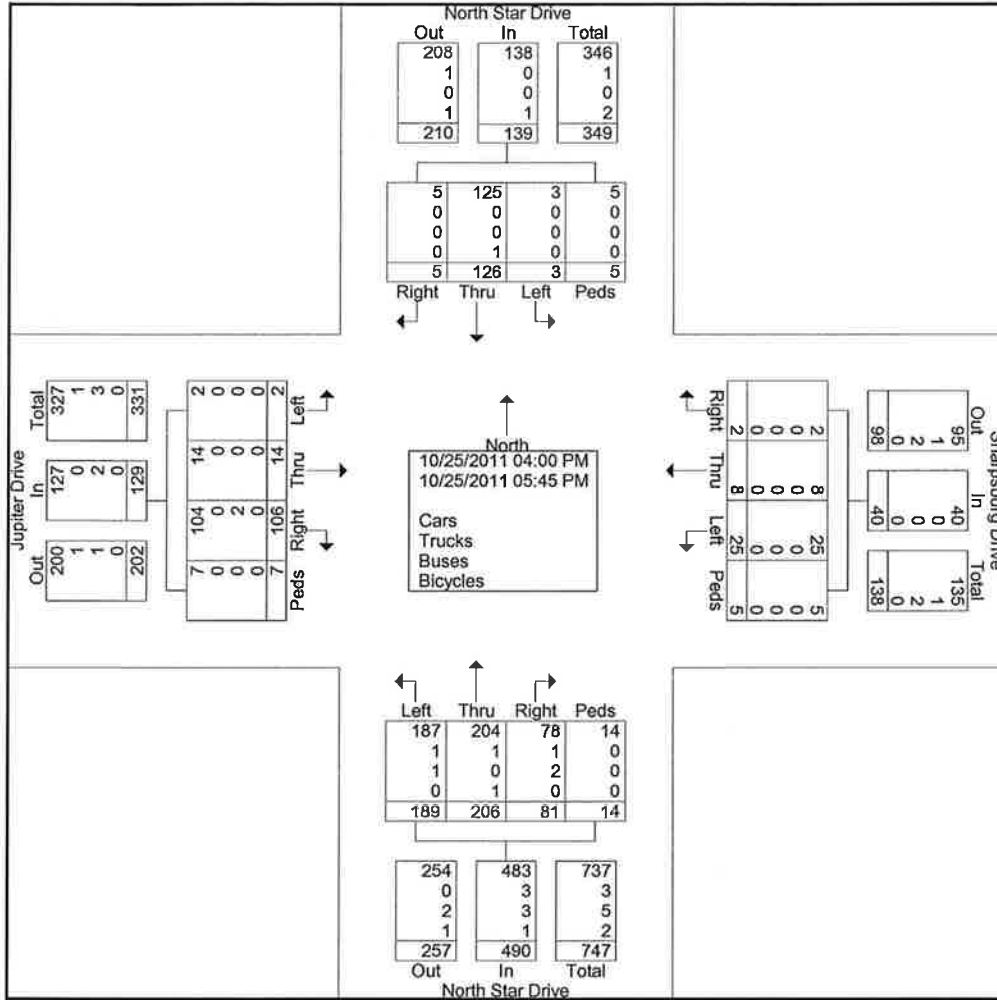
| Start Time | North Star Drive From North | | | | | Sharpsburg Drive From East | | | | | North Star Drive From South | | | | | Jupiter Drive From West | | | | | Int. Total |
|--------------------|-----------------------------|-------------|------------|------------|-------------|----------------------------|------------|-------------|-------------|------------|-----------------------------|-------------|-------------|------------|-------------|-------------------------|-------------|------------|------------|-------------|-------------|
| | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | |
| 04:00 PM | 1 | 14 | 0 | 0 | 15 | 0 | 1 | 2 | 1 | 4 | 11 | 16 | 21 | 3 | 51 | 9 | 2 | 0 | 2 | 13 | 83 |
| 04:15 PM | 1 | 12 | 1 | 1 | 15 | 1 | 0 | 7 | 0 | 8 | 6 | 23 | 17 | 1 | 47 | 16 | 2 | 0 | 1 | 19 | 89 |
| 04:30 PM | 0 | 24 | 0 | 1 | 25 | 0 | 1 | 1 | 1 | 3 | 11 | 34 | 13 | 0 | 58 | 15 | 3 | 0 | 0 | 18 | 104 |
| 04:45 PM | 0 | 17 | 0 | 1 | 18 | 0 | 1 | 2 | 1 | 4 | 10 | 22 | 24 | 2 | 58 | 15 | 2 | 0 | 2 | 19 | 99 |
| Total | 2 | 67 | 1 | 3 | 73 | 1 | 3 | 12 | 3 | 19 | 38 | 95 | 75 | 6 | 214 | 55 | 9 | 0 | 5 | 69 | 375 |
| 05:00 PM | 1 | 15 | 2 | 0 | 18 | 0 | 2 | 3 | 0 | 5 | 5 | 22 | 23 | 0 | 50 | 15 | 3 | 0 | 0 | 18 | 91 |
| 05:15 PM | 0 | 13 | 0 | 2 | 15 | 1 | 1 | 2 | 2 | 6 | 10 | 31 | 22 | 2 | 65 | 13 | 0 | 0 | 2 | 15 | 101 |
| 05:30 PM | 1 | 19 | 0 | 0 | 20 | 0 | 0 | 4 | 0 | 4 | 15 | 35 | 32 | 4 | 86 | 11 | 0 | 0 | 0 | 11 | 121 |
| 05:45 PM | 1 | 12 | 0 | 0 | 13 | 0 | 2 | 4 | 0 | 6 | 13 | 23 | 37 | 2 | 75 | 12 | 2 | 2 | 0 | 16 | 110 |
| Total | 3 | 59 | 2 | 2 | 66 | 1 | 5 | 13 | 2 | 21 | 43 | 111 | 114 | 8 | 276 | 51 | 5 | 2 | 2 | 60 | 423 |
| Grand Total | 5 | 126 | 3 | 5 | 139 | 2 | 8 | 25 | 5 | 40 | 81 | 206 | 189 | 14 | 490 | 106 | 14 | 2 | 7 | 129 | 798 |
| Apprch % | 3.6 | 90.6 | 2.2 | 3.6 | | 5 | 20 | 62.5 | 12.5 | | 16.5 | 42 | 38.6 | 2.9 | | 82.2 | 10.9 | 1.6 | 5.4 | | |
| Total % | 0.6 | 15.8 | 0.4 | 0.6 | 17.4 | 0.3 | 1 | 3.1 | 0.6 | 5 | 10.2 | 25.8 | 23.7 | 1.8 | 61.4 | 13.3 | 1.8 | 0.3 | 0.9 | 16.2 | |
| Cars | 5 | 125 | 3 | 5 | 138 | 2 | 8 | 25 | 5 | 40 | 78 | 204 | 187 | 14 | 483 | 104 | 14 | 2 | 7 | 127 | 788 |
| % Cars | 100 | 99.2 | 100 | 100 | 99.3 | 100 | 100 | 100 | 100 | 100 | 96.3 | 99 | 98.9 | 100 | 98.6 | 98.1 | 100 | 100 | 100 | 98.4 | 98.7 |
| Trucks | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| % Trucks | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.2 | 0.5 | 0.5 | 0 | 0.6 | 0 | 0 | 0 | 0 | 0 | 0.4 |
| Buses | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 3 | 2 | 0 | 0 | 0 | 2 | 5 |
| % Buses | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2.5 | 0 | 0.5 | 0 | 0.6 | 1.9 | 0 | 0 | 0 | 1.6 | 0.6 |
| Bicycles | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 |
| % Bicycles | 0 | 0.8 | 0 | 0 | 0.7 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 0 | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0.3 |

KL Engineering, Inc.

5950 Seminole Centre Court, Suite 200
Madison, WI 53711

North Star Dr & Sharpsburg/Jupiter Dr
4:00 - 6:00 pm
Madison, Dane County, WI
Grandview Commons Town Center

File Name : PM North Star Jupiter PM
Site Code : 111005PM
Start Date : 10/25/2011
Page No : 2



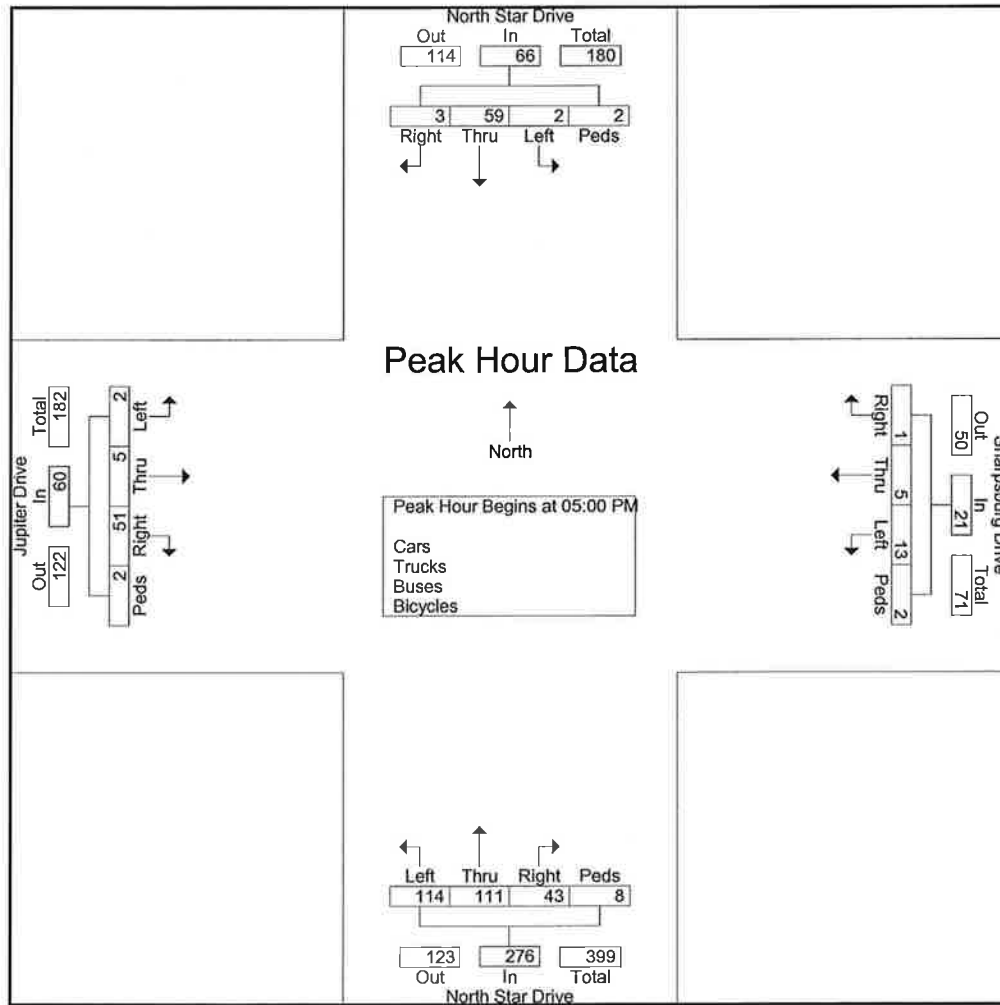
KL Engineering, Inc.

5950 Seminole Centre Court, Suite 200
Madison, WI 53711

North Star Dr & Sharpsburg/Jupiter Dr
4:00 - 6:00 pm
Madison, Dane County, WI
Grandview Commons Town Center

File Name : PM North Star Jupiter PM
Site Code : 111005PM
Start Date : 10/25/2011
Page No : 3

| Start Time | North Star Drive From North | | | | | Sharpsburg Drive From East | | | | | North Star Drive From South | | | | | Jupiter Drive From West | | | | | Int. Total |
|--|-----------------------------|-----------|----------|----------|------------|----------------------------|----------|----------|----------|------------|-----------------------------|-----------|-----------|----------|------------|-------------------------|----------|----------|----------|------------|------------|
| | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | |
| Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 05:00 PM | | | | | | | | | | | | | | | | | | | | | |
| 05:00 PM | 1 | | 2 | | | | 2 | | | | | | | | | 15 | 3 | 0 | 0 | 18 | 91 |
| 05:15 PM | 0 | 13 | 0 | 2 | | 1 | 1 | 2 | 2 | 6 | 10 | 31 | 22 | 2 | 65 | 13 | 0 | 0 | 2 | | |
| 05:30 PM | 1 | 19 | 0 | 0 | 20 | 0 | 0 | 4 | 0 | 4 | 15 | 35 | 32 | 4 | 86 | 11 | 0 | 0 | 0 | 11 | 121 |
| 05:45 PM | 1 | 12 | 0 | 0 | 13 | 0 | 2 | 4 | 0 | 6 | 13 | 23 | 37 | 2 | 75 | 12 | 2 | 2 | | | |
| Total Volume | 3 | 59 | 2 | 2 | 66 | 1 | 5 | 13 | 2 | 21 | 43 | 111 | 114 | 8 | 276 | 51 | 5 | 2 | 2 | 60 | 423 |
| % App. Total | 4.5 | 89.4 | 3 | 3 | | 4.8 | 23.8 | 61.9 | 9.5 | | 15.6 | 40.2 | 41.3 | 2.9 | | 85 | 8.3 | 3.3 | 3.3 | | |
| PHF | .750 | .776 | .250 | .250 | .825 | .250 | .625 | .813 | .250 | .875 | .717 | .793 | .770 | .500 | .802 | .850 | .417 | .250 | .250 | .833 | .874 |



KL Engineering, Inc.

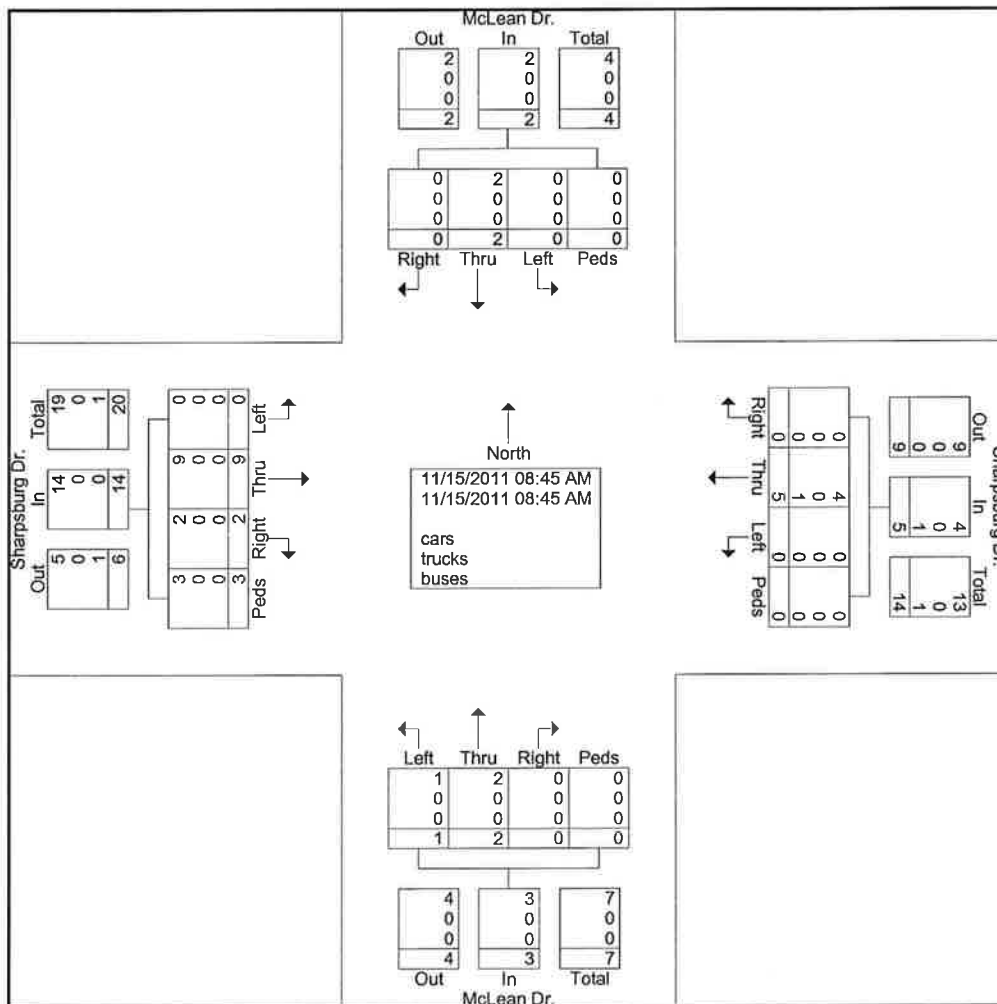
5950 Seminole Centre Court, Suite 200
Madison, WI 53711

McLean Dr and Sharpsburg
7:45 - 8:00 AM
Madison, Dane County, WI
Grandview Commons Town Center

File Name : AM McLean Dr. - Sharpsburg Dr.
Site Code :
Start Date : 11/15/2011
Page No : 1

Groups Printed- cars - trucks - buses

| Start Time | McLean Dr. From North | | | | | Sharpsburg Dr. From East | | | | | McLean Dr. From South | | | | | Sharpsburg Dr. From West | | | | | Int. Total |
|-------------|-----------------------|------|------|------|------------|--------------------------|------|------|------|------------|-----------------------|------|------|------|------------|--------------------------|------|------|------|------------|------------|
| | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | |
| 07:45 AM | 0 | 2 | 0 | 0 | 2 | 0 | 5 | 0 | 0 | 5 | 0 | 2 | 1 | 0 | 3 | 2 | 9 | 0 | 3 | 14 | 24 |
| Total | 0 | 2 | 0 | 0 | 2 | 0 | 5 | 0 | 0 | 5 | 0 | 2 | 1 | 0 | 3 | 2 | 9 | 0 | 3 | 14 | 24 |
| Grand Total | 0 | 2 | 0 | 0 | 2 | 0 | 5 | 0 | 0 | 5 | 0 | 2 | 1 | 0 | 3 | 2 | 9 | 0 | 3 | 14 | 24 |
| Apprch % | 0 | 100 | 0 | 0 | | 0 | 100 | 0 | 0 | | 0 | 66.7 | 33.3 | 0 | | 14.3 | 64.3 | 0 | 21.4 | | |
| Total % | 0 | 8.3 | 0 | 0 | 8.3 | 0 | 20.8 | 0 | 0 | 20.8 | 0 | 8.3 | 4.2 | 0 | 12.5 | 8.3 | 37.5 | 0 | 12.5 | 58.3 | |
| cars | 0 | 2 | 0 | 0 | 2 | 0 | 4 | 0 | 0 | 4 | 0 | 2 | 1 | 0 | 3 | 2 | 9 | 0 | 3 | 14 | 23 |
| % cars | 0 | 100 | 0 | 0 | 100 | 0 | 80 | 0 | 0 | 80 | 0 | 100 | 100 | 0 | 100 | 100 | 100 | 0 | 100 | 100 | 95.8 |
| trucks | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % trucks | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| buses | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| % buses | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4.2 |



KL Engineering, Inc.

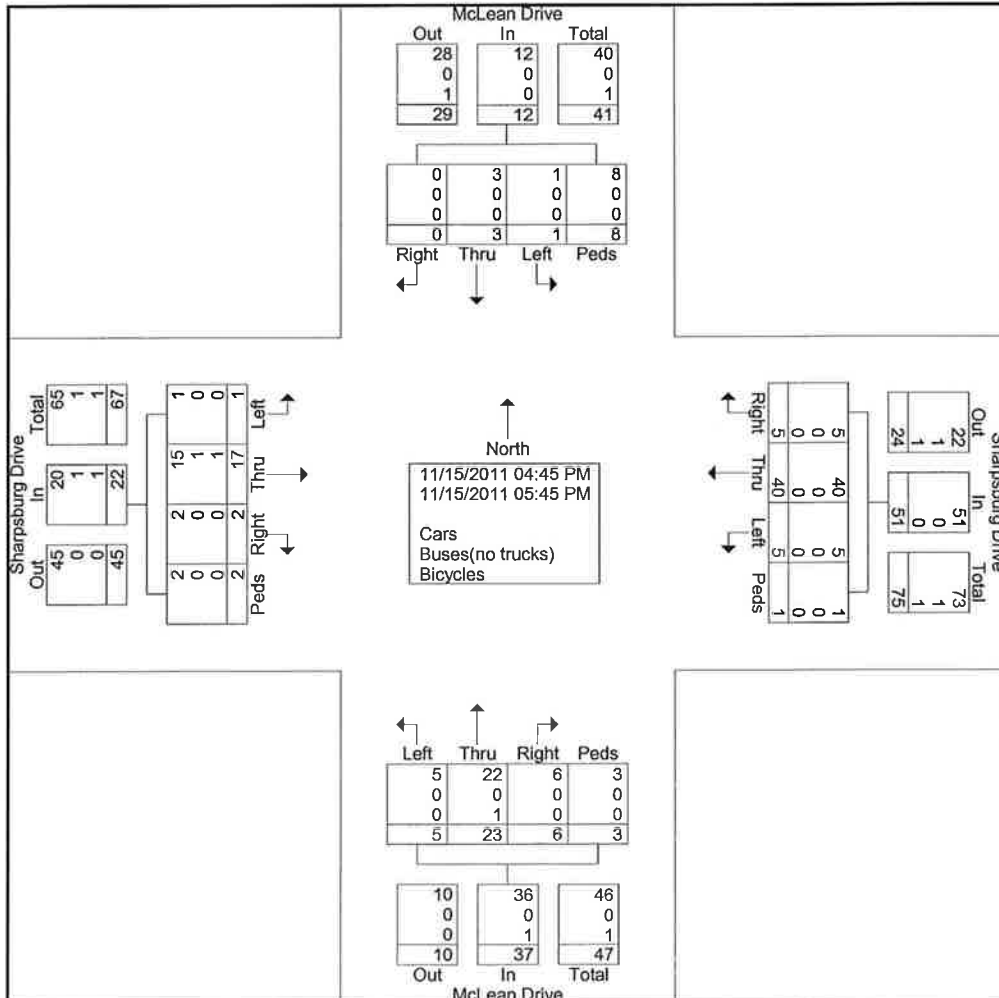
5950 Seminole Centre Court, Suite 200
Madison, WI 53711

McLean Drive & Sharpsburg Drive
PM Peak
Madison, Dane County, WI
Grandview Commons Town Center

File Name : PM McLean Dr. - Sharpsburg Dr.
Site Code : PM
Start Date : 11/15/2011
Page No : 1

Groups Printed- Cars - Buses(no trucks) - Bicycles

| Start Time | McLean Drive From North | | | | | Sharpsburg Drive From East | | | | | McLean Drive From South | | | | | Sharpsburg Drive From West | | | | | Int. Total |
|--------------------|-------------------------|------|------|------|------------|----------------------------|------|------|------|------------|-------------------------|------|------|------|------------|----------------------------|------|------|------|------------|------------|
| | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | |
| 04:45 PM | 0 | 2 | 0 | 0 | 2 | 0 | 10 | 2 | 0 | 12 | 2 | 6 | 2 | 1 | 11 | 0 | 1 | 1 | 0 | 2 | 27 |
| Total | 0 | 2 | 0 | 0 | 2 | 0 | 10 | 2 | 0 | 12 | 2 | 6 | 2 | 1 | 11 | 0 | 1 | 1 | 0 | 2 | 27 |
| 05:00 PM | 0 | 0 | 1 | 3 | 4 | 0 | 8 | 1 | 1 | 10 | 1 | 2 | 0 | 0 | 3 | 0 | 6 | 0 | 1 | 7 | 24 |
| 05:15 PM | 0 | 0 | 0 | 1 | 1 | 2 | 9 | 1 | 0 | 12 | 0 | 8 | 0 | 0 | 8 | 0 | 3 | 0 | 0 | 3 | 24 |
| 05:30 PM | 0 | 1 | 0 | 4 | 5 | 2 | 4 | 0 | 0 | 6 | 3 | 4 | 1 | 2 | 10 | 1 | 4 | 0 | 1 | 6 | 27 |
| 05:45 PM | 0 | 0 | 0 | 0 | 0 | 1 | 9 | 1 | 0 | 11 | 0 | 3 | 2 | 0 | 5 | 1 | 3 | 0 | 0 | 4 | 20 |
| Total | 0 | 1 | 1 | 8 | 10 | 5 | 30 | 3 | 1 | 39 | 4 | 17 | 3 | 2 | 26 | 2 | 16 | 0 | 2 | 20 | 95 |
| Grand Total | 0 | 3 | 1 | 8 | 12 | 5 | 40 | 5 | 1 | 51 | 6 | 23 | 5 | 3 | 37 | 2 | 17 | 1 | 2 | 22 | 122 |
| Apprch % | 0 | 25 | 8.3 | 66.7 | | 9.8 | 78.4 | 9.8 | 2 | | 16.2 | 62.2 | 13.5 | 8.1 | | 9.1 | 77.3 | 4.5 | 9.1 | | |
| Total % | 0 | 2.5 | 0.8 | 6.6 | 9.8 | 4.1 | 32.8 | 4.1 | 0.8 | 41.8 | 4.9 | 18.9 | 4.1 | 2.5 | 30.3 | 1.6 | 13.9 | 0.8 | 1.6 | 18 | |
| Cars | 0 | 3 | 1 | 8 | 12 | 5 | 40 | 5 | 1 | 51 | 6 | 22 | 5 | 3 | 36 | 2 | 15 | 1 | 2 | 20 | 119 |
| % Cars | 0 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 95.7 | 100 | 100 | 97.3 | 100 | 88.2 | 100 | 100 | 90.9 | 97.5 |
| Buses(no trucks) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5.9 | 0 | 0 | 4.5 | 0.8 |
| % Buses(no trucks) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 2 |
| Bicycles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 2 |
| % Bicycles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4.3 | 0 | 0 | 2.7 | 0 | 5.9 | 0 | 0 | 4.5 | 1.6 |



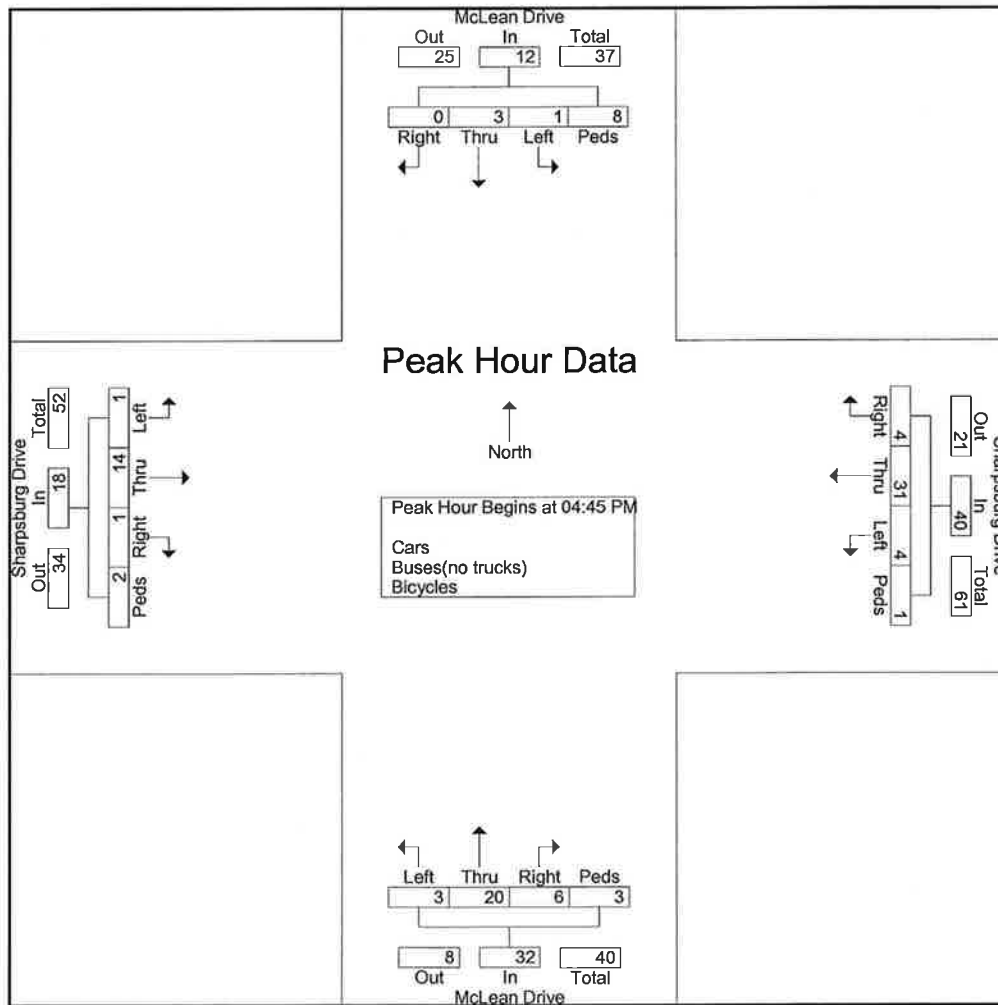
KL Engineering, Inc.

5950 Seminole Centre Court, Suite 200
Madison, WI 53711

McLean Drive & Sharpsburg Drive
PM Peak
Madison, Dane County, WI
Grandview Commons Town Center

File Name : PM McLean Dr. - Sharpsburg Dr.
Site Code : PM
Start Date : 11/15/2011
Page No : 2

| Start Time | McLean Drive From North | | | | | Sharpsburg Drive From East | | | | | McLean Drive From South | | | | | Sharpsburg Drive From West | | | | | Int. Total |
|--|-------------------------|----------|----------|----------|------------|----------------------------|----------|----------|----------|------------|-------------------------|----------|----------|----------|------------|----------------------------|----------|----------|----------|------------|------------|
| | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | |
| Peak Hour Analysis From 04:45 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 04:45 PM | | | | | | | | | | | | | | | | | | | | | |
| 04:45 PM | 0 | 2 | 0 | 0 | 2 | 0 | 10 | 2 | | 12 | 2 | 6 | 2 | 1 | 11 | 0 | 1 | 1 | | 27 | |
| 05:00 PM | 0 | 0 | 1 | | | | | | 1 | 10 | 1 | 2 | 0 | 0 | 3 | 0 | 6 | 0 | 1 | 7 | 24 |
| 05:15 PM | 0 | 0 | 0 | 1 | 1 | 2 | 9 | 1 | 0 | 12 | 0 | 8 | | | | | | | | | |
| 05:30 PM | 0 | 1 | 0 | 4 | 5 | 2 | 4 | 0 | 0 | 6 | 3 | 4 | 1 | 2 | 10 | 1 | 4 | 0 | 1 | 6 | 27 |
| Total Volume | 0 | 3 | 1 | 8 | 12 | 4 | 31 | 4 | 1 | 40 | 6 | 20 | 3 | 3 | 32 | 1 | 14 | 1 | 2 | 18 | 102 |
| % App. Total | 0 | 25 | 8.3 | 66.7 | | 10 | 77.5 | 10 | 2.5 | | 18.8 | 62.5 | 9.4 | 9.4 | | 5.6 | 77.8 | 5.6 | 11.1 | | |
| PHF | .000 | .375 | .250 | .500 | .600 | .500 | .775 | .500 | .250 | .833 | .500 | .625 | .375 | .375 | .727 | .250 | .583 | .250 | .500 | .643 | .944 |



5500 COTTAGE GROVE RD. [THOMPSON - 1/90]
 TRAFFIC ENGINEERING DIVISION
 CITY OF MADISON, WI
 AUTOMATIC TRAFFIC COUNTER RECORD

LOCATION 5500 COTTAGE GROVE RD. [THOMPSON - 1/90]

STATION# 4022

DIRECTION combined

REMARKS

START TIME 1000 on 7/28/2010

END TIME 1000 on 7/29/2010

| Day | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday | TOTAL M-F | AWT | ADT |
|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------|--------|
| Date | 02-Aug-10 | 03-Aug-10 | 28-Jul-10 | 29-Jul-10 | 30-Jul-10 | 31-Jul-10 | 01-Aug-10 | Volume | Volume | Volume |
| AM 12-1 | | | | 68 | | | | 68 | 68 | 68 |
| 1-2 | | | | 53 | | | | 53 | 53 | 53 |
| 2-3 | | | | 22 | | | | 22 | 22 | 22 |
| 3-4 | | | | 32 | | | | 32 | 32 | 32 |
| 4-5 | | | | 44 | | | | 44 | 44 | 44 |
| 5-6 | | | | 195 | | | | 195 | 195 | 195 |
| 6-7 | | | | 477 | | | | 477 | 477 | 477 |
| 7-8 | | | | 879 | | | | 879 | 879 | 879 |
| 8-9 | | | | 787 | | | | 787 | 787 | 787 |
| 9-10 | | | | 700 | | | | 700 | 700 | 700 |
| 10-11 | | | 740 | | | | | 740 | 740 | 740 |
| 11-12 | | | 748 | | | | | 748 | 748 | 748 |
| PM 12-1 | | | 882 | | | | | 882 | 882 | 882 |
| 1-2 | | | 818 | | | | | 818 | 818 | 818 |
| 2-3 | | | 886 | | | | | 886 | 886 | 886 |
| 3-4 | | | 1049 | | | | | 1049 | 1049 | 1049 |
| 4-5 | | | 1178 | | | | | 1178 | 1178 | 1178 |
| 5-6 | | | 1214 | | | | | 1214 | 1214 | 1214 |
| 6-7 | | | 946 | | | | | 946 | 946 | 946 |
| 7-8 | | | 737 | | | | | 737 | 737 | 737 |
| 8-9 | | | 676 | | | | | 676 | 676 | 676 |
| 9-10 | | | 515 | | | | | 515 | 515 | 515 |
| 10-11 | | | 225 | | | | | 225 | 225 | 225 |
| 11-12 | | | 144 | | | | | 144 | 144 | 144 |
| 24 HR TOTAL | | | 10758 | 3257 | | | | 14015 | 14015 | 14015 |

Factor 0.98

AAWT

Factored Total 13735

LOCATION 5500 COTTAGE GROVE RD. [THOMPSON - I/90]

STATION# 4022

DIRECTION E.B.

REMARKS

START TIME 1000 on 7/28/2010

END TIME 1000 on 7/29/2010

TRAFFIC ENGINEERING DIVISION
CITY OF MADISON, WI
AUTOMATIC TRAFFIC COUNTER RECORD

| Day Date | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday | TOTAL M-F | AWT | ADT |
|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------|--------|
| | 02-Aug-10 | 03-Aug-10 | 28-Jul-10 | 29-Jul-10 | 30-Jul-10 | 31-Jul-10 | 01-Aug-10 | Volume | Volume | Volume |
| AM 12-1 | | | | 35 | | | | 35 | 35 | 35 |
| 1-2 | | | | 31 | | | | 31 | 31 | 31 |
| 2-3 | | | | 16 | | | | 16 | 16 | 16 |
| 3-4 | | | | 13 | | | | 13 | 13 | 13 |
| 4-5 | | | | 10 | | | | 10 | 10 | 10 |
| 5-6 | | | | 58 | | | | 58 | 58 | 58 |
| 6-7 | | | | 120 | | | | 120 | 120 | 120 |
| 7-8 | | | | 221 | | | | 221 | 221 | 221 |
| 8-9 | | | | 252 | | | | 252 | 252 | 252 |
| 9-10 | | | | 306 | | | | 306 | 306 | 306 |
| 10-11 | | | | 343 | | | | 343 | 343 | 343 |
| 11-12 | | | | 365 | | | | 365 | 365 | 365 |
| PM 12-1 | | | | 456 | | | | 456 | 456 | 456 |
| 1-2 | | | | 391 | | | | 391 | 391 | 391 |
| 2-3 | | | | 477 | | | | 477 | 477 | 477 |
| 3-4 | | | | 570 | | | | 570 | 570 | 570 |
| 4-5 | | | | 719 | | | | 719 | 719 | 719 |
| 5-6 | | | | 707 | | | | 707 | 707 | 707 |
| 6-7 | | | | 500 | | | | 500 | 500 | 500 |
| 7-8 | | | | 401 | | | | 401 | 401 | 401 |
| 8-9 | | | | 377 | | | | 377 | 377 | 377 |
| 9-10 | | | | 334 | | | | 334 | 334 | 334 |
| 10-11 | | | | 143 | | | | 143 | 143 | 143 |
| 11-12 | | | | 94 | | | | 94 | 94 | 94 |
| 24 HR TOTAL | | | | 5877 | | | 1062 | 6939 | 6939 | 6939 |

Factor 0.98

AAWT

Factored Total 6800

LOCATION 5500 COTTAGE GROVE RD. J THOMPSON - I/90 I

STATION# 4022

DIRECTION W.B.

REMARKS

START TIME 1000 on 7/28/2010

END TIME 1000 on 7/29/2010

TRAFFIC ENGINEERING DIVISION
CITY OF MADISON, WI
AUTOMATIC TRAFFIC COUNTER RECORD

| Day | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday | TOTAL M-F | AWT | ADT |
|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------|--------|
| Date | 02-Aug-10 | 03-Aug-10 | 28-Jul-10 | 29-Jul-10 | 30-Jul-10 | 31-Jul-10 | 01-Aug-10 | Volume | Volume | Volume |
| AM 12-1 | | | | | 33 | | | 33 | 33 | 33 |
| 1-2 | | | | | 22 | | | 22 | 22 | 22 |
| 2-3 | | | | | 6 | | | 6 | 6 | 6 |
| 3-4 | | | | | 19 | | | 19 | 19 | 19 |
| 4-5 | | | | | 34 | | | 34 | 34 | 34 |
| 5-6 | | | | | 137 | | | 137 | 137 | 137 |
| 6-7 | | | | | 357 | | | 357 | 357 | 357 |
| 7-8 | | | | | 658 | | | 658 | 658 | 658 |
| 8-9 | | | | | 535 | | | 535 | 535 | 535 |
| 9-10 | | | | | 394 | | | 394 | 394 | 394 |
| 10-11 | | | | 397 | | | | 397 | 397 | 397 |
| 11-12 | | | | 383 | | | | 383 | 383 | 383 |
| PM 12-1 | | | | 426 | | | | 426 | 426 | 426 |
| 1-2 | | | | 427 | | | | 427 | 427 | 427 |
| 2-3 | | | | 409 | | | | 409 | 409 | 409 |
| 3-4 | | | | 479 | | | | 479 | 479 | 479 |
| 4-5 | | | | 459 | | | | 459 | 459 | 459 |
| 5-6 | | | | 507 | | | | 507 | 507 | 507 |
| 6-7 | | | | 446 | | | | 446 | 446 | 446 |
| 7-8 | | | | 336 | | | | 336 | 336 | 336 |
| 8-9 | | | | 299 | | | | 299 | 299 | 299 |
| 9-10 | | | | 181 | | | | 181 | 181 | 181 |
| 10-11 | | | | 82 | | | | 82 | 82 | 82 |
| 11-12 | | | | 50 | | | | 50 | 50 | 50 |
| 24 HR TOTAL | | | | 4881 | | | 2195 | 7076 | 7076 | 7076 |

Factor 0.98

AAWT

Factored Total 6934

LOCATION 5900 Cottage Grove Rd [North Star -McLean]

STATION# 402206

DIRECTION NON-DIR

REMARKS

START TIME 1400 on 7/21/2010

END TIME 1400 on 7/22/2010

TRAFFIC ENGINEERING DIVISION

CITY OF MADISON, WI

AUTOMATIC TRAFFIC COUNTER RECORD

| Date | Monday | | Tuesday | | Wednesday | | Thursday | | Friday | | Saturday | | Sunday | | TOTAL M-F | | AWT | | ADT | | |
|-------------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|--------|--------|--------|--------|--------|--------|
| | 26-Jul-10 | 27-Jul-10 | 28-Jul-10 | 29-Jul-10 | 30-Jul-10 | 31-Jul-10 | 1-Aug-10 | 2-Aug-10 | 3-Aug-10 | 4-Aug-10 | 5-Aug-10 | 6-Aug-10 | 7-Aug-10 | 8-Aug-10 | 9-Aug-10 | Volume | Volume | Volume | Volume | Volume | Volume |
| AM 12-1 | | | | | | | | | 59 | | | | | | | 59 | | | | | 59 |
| 1-2 | | | | | | | | 35 | | | | | | | | 35 | | | | | 35 |
| 2-3 | | | | | | | | 18 | | | | | | | | 18 | | | | | 18 |
| 3-4 | | | | | | | | 28 | | | | | | | | 28 | | | | | 28 |
| 4-5 | | | | | | | | 39 | | | | | | | | 39 | | | | | 39 |
| 5-6 | | | | | | | | 128 | | | | | | | | 128 | | | | | 128 |
| 6-7 | | | | | | | | 386 | | | | | | | | 386 | | | | | 386 |
| 7-8 | | | | | | | | 677 | 6 | | | | | | | 677 | | | | | 677 |
| 8-9 | | | | | | | | 570 | | | | | | | | 570 | | | | | 570 |
| 9-10 | | | | | | | | 526 | | | | | | | | 526 | | | | | 526 |
| 10-11 | | | | | | | | 561 | | | | | | | | 561 | | | | | 561 |
| 11-12 | | | | | | | | 603 | | | | | | | | 603 | | | | | 603 |
| PM 12-1 | | | | | | | | 635 | 8 | | | | | | | 635 | | | | | 635 |
| 1-2 | | | | | | | | 669 | 7 | | | | | | | 669 | | | | | 669 |
| 2-3 | | | | | | | | 681 | 5 | | | | | | | 681 | | | | | 681 |
| 3-4 | | | | | | | | 859 | 3 | | | | | | | 859 | | | | | 859 |
| 4-5 | | | | | | | | 1016 | 2 | | | | | | | 1016 | | | | | 1016 |
| 5-6 | | | | | | | | 1088 | 1 | | | | | | | 1088 | | | | | 1088 |
| 6-7 | | | | | | | | 780 | 4 | | | | | | | 780 | | | | | 780 |
| 7-8 | | | | | | | | 581 | | | | | | | | 581 | | | | | 581 |
| 8-9 | | | | | | | | 578 | | | | | | | | 578 | | | | | 578 |
| 9-10 | | | | | | | | 442 | | | | | | | | 442 | | | | | 442 |
| 10-11 | | | | | | | | 227 | | | | | | | | 227 | | | | | 227 |
| 11-12 | | | | | | | | 102 | | | | | | | | 102 | | | | | 102 |
| 24 HR TOTAL | | | | | | | | 6354 | 4934 | | | | | | | 11288 | | | | | 11288 |

Factor 0.98

AAWT

Factored Total 11062

LOCATION 6900 COTTAGE GR.RD. (WEST OF SPRECHER)
 STATION# 402202
 DIRECTION NON-DIR

TRAFFIC ENGINEERING DIVISION
 CITY OF MADISON, WI
 AUTOMATIC TRAFFIC COUNTER RECORD

REMARKS
 START TIME 1300 on 7/21/2010
 END TIME 1300 on 7/22/2010

| Day | Monday | | Tuesday | | Wednesday | | Thursday | | Friday | | Saturday | | Sunday | | TOTAL M-F | | AWT | | ADT | |
|-------------|--------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|----------|----------|----------|----------|----------|-----------|--------|--------|--------|--------|--------|
| | Date | 26-Jul-10 | 27-Jul-10 | 28-Jul-10 | 29-Jul-10 | 30-Jul-10 | 31-Jul-10 | 1-Aug-10 | 2-Aug-10 | 3-Aug-10 | 4-Aug-10 | 5-Aug-10 | 6-Aug-10 | 7-Aug-10 | 8-Aug-10 | Volume | Volume | Volume | Volume | Volume |
| AM 12-1 | | | | | | | | | | | | | | | | 51 | 51 | 51 | 51 | 51 |
| 1-2 | | | | | | | | | | | | | | | | 27 | 27 | 27 | 27 | 27 |
| 2-3 | | | | | | | | | | | | | | | | 14 | 14 | 14 | 14 | 14 |
| 3-4 | | | | | | | | | | | | | | | | 26 | 26 | 26 | 26 | 26 |
| 4-5 | | | | | | | | | | | | | | | | 35 | 35 | 35 | 35 | 35 |
| 5-6 | | | | | | | | | | | | | | | | 130 | 130 | 130 | 130 | 130 |
| 6-7 | | | | | | | | | | | | | | | | 353 | 353 | 353 | 353 | 353 |
| 7-8 | | | | | | | | | | | | | | | | 589 | 589 | 589 | 589 | 589 |
| 8-9 | | | | | | | | | | | | | | | | 514 | 514 | 514 | 514 | 514 |
| 9-10 | | | | | | | | | | | | | | | | 500 | 500 | 500 | 500 | 500 |
| 10-11 | | | | | | | | | | | | | | | | 531 | 531 | 531 | 531 | 531 |
| 11-12 | | | | | | | | | | | | | | | | 543 | 543 | 543 | 543 | 543 |
| PM 12-1 | | | | | | | | | | | | | | | | 546 | 546 | 546 | 546 | 546 |
| 1-2 | | | | | | | | | | | | | | | | 620 | 620 | 620 | 620 | 620 |
| 2-3 | | | | | | | | | | | | | | | | 610 | 610 | 610 | 610 | 610 |
| 3-4 | | | | | | | | | | | | | | | | 779 | 779 | 779 | 779 | 779 |
| 4-5 | | | | | | | | | | | | | | | | 887 | 887 | 887 | 887 | 887 |
| 5-6 | | | | | | | | | | | | | | | | 943 | 943 | 943 | 943 | 943 |
| 6-7 | | | | | | | | | | | | | | | | 660 | 660 | 660 | 660 | 660 |
| 7-8 | | | | | | | | | | | | | | | | 491 | 491 | 491 | 491 | 491 |
| 8-9 | | | | | | | | | | | | | | | | 490 | 490 | 490 | 490 | 490 |
| 9-10 | | | | | | | | | | | | | | | | 351 | 351 | 351 | 351 | 351 |
| 10-11 | | | | | | | | | | | | | | | | 175 | 175 | 175 | 175 | 175 |
| 11-12 | | | | | | | | | | | | | | | | 85 | 85 | 85 | 85 | 85 |
| 24 HR TOTAL | | | | | | | | | | | | | | | | 3859 | 6091 | 9950 | 9950 | 9950 |

Factor 0.98

AAWT

Factored Total 9751

1200
 LOCATION ~~6400~~ COTTAGE GR. RD. (EAST OF SPRECHER)
 STATION# 402201
 DIRECTION NON-DIR
 REMARKS
 START TIME 1300 on 7/21/2010
 END TIME 1300 on 7/22/2010

TRAFFIC ENGINEERING DIVISION
 CITY OF MADISON, WI
 AUTOMATIC TRAFFIC COUNTER RECORD

| Day | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday | TOTAL M-F | | ADT |
|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------|--------|
| | 26-Jul-10 | 27-Jul-10 | 21-Jul-10 | 22-Jul-10 | 23-Jul-10 | 24-Jul-10 | 25-Jul-10 | Volume | Volume | Volume |
| AM 12-1 | | | | | 45 | | | 45 | 45 | 45 |
| 1-2 | | | | | 29 | | | 29 | 29 | 29 |
| 2-3 | | | | | 17 | | | 17 | 17 | 17 |
| 3-4 | | | | | 24 | | | 24 | 24 | 24 |
| 4-5 | | | | | 36 | | | 36 | 36 | 36 |
| 5-6 | | | | | 142 | | | 142 | 142 | 142 |
| 6-7 | | | | | 412 | | | 412 | 412 | 412 |
| 7-8 | | | | | 741 | | | 741 | 741 | 741 |
| 8-9 | | | | | 585 | | | 585 | 585 | 585 |
| 9-10 | | | | | 528 | | | 528 | 528 | 528 |
| 10-11 | | | | | 576 | | | 576 | 576 | 576 |
| 11-12 | | | | | 594 | | | 594 | 594 | 594 |
| PM 12-1 | | | | | 597 | | | 597 | 597 | 597 |
| 1-2 | | | 653 | | | | | 653 | 653 | 653 |
| 2-3 | | | 667 | | | | | 667 | 667 | 667 |
| 3-4 | | | 869 | | | | | 869 | 869 | 869 |
| 4-5 | | | 1010 | | | | | 1010 | 1010 | 1010 |
| 5-6 | | | 1087 | | | | | 1087 | 1087 | 1087 |
| 6-7 | | | 725 | | | | | 725 | 725 | 725 |
| 7-8 | | | 529 | | | | | 529 | 529 | 529 |
| 8-9 | | | 561 | | | | | 561 | 561 | 561 |
| 9-10 | | | 394 | | | | | 394 | 394 | 394 |
| 10-11 | | | 190 | | | | | 190 | 190 | 190 |
| 11-12 | | | 109 | | | | | 109 | 109 | 109 |
| 24 HR TOTAL | | | 6794 | | 4326 | | | 11120 | 11120 | 11120 |

Factor 0.98

AAWT

Factored Total 10898

LOCATION 900 North Star Dr [Sharpsburg - Cottage Grove]

STATION# 402205

DIRECTION combined

REMARKS

START TIME 1000 on 7/9/2009

END TIME 1000 on 7/10/2009

TRAFFIC ENGINEERING DIVISION
CITY OF MADISON, WI
AUTOMATIC TRAFFIC COUNTER RECORD

| Day | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday | TOTAL M-F | AWT | ADT |
|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------|--------|
| Date | 13-Jul-09 | 14-Jul-09 | 15-Jul-09 | 09-Jul-09 | 10-Jul-09 | 11-Jul-09 | 12-Jul-09 | Volume | Volume | Volume |
| AM 12-1 | | | | | 41 | | | 41 | 41 | 41 |
| 1-2 | | | | | 18 | | | 18 | 18 | 18 |
| 2-3 | | | | | 15 | | | 15 | 15 | 15 |
| 3-4 | | | | | 12 | | | 12 | 12 | 12 |
| 4-5 | | | | | 18 | | | 18 | 18 | 18 |
| 5-6 | | | | | 73 | | | 73 | 73 | 73 |
| 6-7 | | | | | 155 | | | 155 | 155 | 155 |
| 7-8 | | | | | 295 | | | 295 | 295 | 295 |
| 8-9 | | | | | 226 | | | 226 | 226 | 226 |
| 9-10 | | | | | 204 | | | 204 | 204 | 204 |
| 10-11 | | | | 160 | | | | 160 | 160 | 160 |
| 11-12 | | | | 221 | | | | 221 | 221 | 221 |
| PM 12-1 | | | | 285 | | | | 285 | 285 | 285 |
| 1-2 | | | | 206 | | | | 206 | 206 | 206 |
| 2-3 | | | | 241 | | | | 241 | 241 | 241 |
| 3-4 | | | | 249 | | | | 249 | 249 | 249 |
| 4-5 | | | | 307 | | | | 307 | 307 | 307 |
| 5-6 | | | | 351 | | | | 351 | 351 | 351 |
| 6-7 | | | | 244 | | | | 244 | 244 | 244 |
| 7-8 | | | | 204 | | | | 204 | 204 | 204 |
| 8-9 | | | | 182 | | | | 182 | 182 | 182 |
| 9-10 | | | | 121 | | | | 121 | 121 | 121 |
| 10-11 | | | | 99 | | | | 99 | 99 | 99 |
| 11-12 | | | | 55 | | | | 55 | 55 | 55 |
| 24 HR TOTAL | | | | 2925 | 1057 | | | 3982 | 3982 | 3982 |

Factor 0.98

AAWT

Factored Total 3902

LOCATION 900 North Star Dr [Sharpsburg - Cottage Grove]

STATION# 402205

DIRECTION N.B.

REMARKS

START TIME 1000 on 7/9/2009

END TIME 1000 on 7/10/2009

TRAFFIC ENGINEERING DIVISION
CITY OF MADISON, WI
AUTOMATIC TRAFFIC COUNTER RECORD

| Day | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday | TOTAL M-F | AWT | ADT |
|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------|--------|
| Date | 13-Jul-09 | 14-Jul-09 | 15-Jul-09 | 09-Jul-09 | 10-Jul-09 | 11-Jul-09 | 12-Jul-09 | Volume | Volume | Volume |
| AM 12-1 | | | | | 23 | | | 23 | 23 | 23 |
| 1-2 | | | | | 13 | | | 13 | 13 | 13 |
| 2-3 | | | | | 6 | | | 6 | 6 | 6 |
| 3-4 | | | | | 5 | | | 5 | 5 | 5 |
| 4-5 | | | | | 6 | | | 6 | 6 | 6 |
| 5-6 | | | | | 26 | | | 26 | 26 | 26 |
| 6-7 | | | | | 37 | | | 37 | 37 | 37 |
| 7-8 | | | | | 75 | | | 75 | 75 | 75 |
| 8-9 | | | | | 67 | | | 67 | 67 | 67 |
| 9-10 | | | | | 62 | | | 62 | 62 | 62 |
| 10-11 | | | | 70 | | | | 70 | 70 | 70 |
| 11-12 | | | | 87 | | | | 87 | 87 | 87 |
| PM 12-1 | | | | 114 | | | | 114 | 114 | 114 |
| 1-2 | | | | 90 | | | | 90 | 90 | 90 |
| 2-3 | | | | 93 | | | | 93 | 93 | 93 |
| 3-4 | | | | 119 | | | | 119 | 119 | 119 |
| 4-5 | | | | 145 | | | | 145 | 145 | 145 |
| 5-6 | | | | 185 | | | | 185 | 185 | 185 |
| 6-7 | | | | 110 | | | | 110 | 110 | 110 |
| 7-8 | | | | 102 | | | | 102 | 102 | 102 |
| 8-9 | | | | 99 | | | | 99 | 99 | 99 |
| 9-10 | | | | 67 | | | | 67 | 67 | 67 |
| 10-11 | | | | 40 | | | | 40 | 40 | 40 |
| 11-12 | | | | 36 | | | | 36 | 36 | 36 |
| 24 HR TOTAL | | | | 1357 | 320 | | | 1677 | 1677 | 1677 |

Factor 0.98

AAWT

Factored Total 1643

LOCATION 900 North Star Dr [Sharpsburg - Cottage Grove]

STATION# 402205

DIRECTION S.B.

REMARKS

START TIME 1000 on 7/9/2009

END TIME 1000 on 7/10/2009

TRAFFIC ENGINEERING DIVISION

CITY OF MADISON, WI

AUTOMATIC TRAFFIC COUNTER RECORD

| Day | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday | TOTAL M-F | AWT | ADT |
|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------|--------|
| Date | 13-Jul-09 | 14-Jul-09 | 15-Jul-09 | 08-Jul-09 | 10-Jul-09 | 11-Jul-09 | 12-Jul-09 | Volume | Volume | Volume |
| AM 12-1 | | | | | 18 | | | 18 | 18 | 18 |
| 1-2 | | | | | 5 | | | 5 | 5 | 5 |
| 2-3 | | | | | 9 | | | 9 | 9 | 9 |
| 3-4 | | | | | 7 | | | 7 | 7 | 7 |
| 4-5 | | | | | 12 | | | 12 | 12 | 12 |
| 5-6 | | | | | 47 | | | 47 | 47 | 47 |
| 6-7 | | | | | 118 | | | 118 | 118 | 118 |
| 7-8 | | | | | 220 | 6 | | 220 | 220 | 220 |
| 8-9 | | | | | 159 | 5 | | 159 | 159 | 159 |
| 9-10 | | | | | 142 | 8 | | 142 | 142 | 142 |
| 10-11 | | | | | 90 | | | 90 | 90 | 90 |
| 11-12 | | | | | 134 | 8 | | 134 | 134 | 134 |
| PM 12-1 | | | | | 171 | 7 | | 171 | 171 | 171 |
| 1-2 | | | | | 116 | | | 116 | 116 | 116 |
| 2-3 | | | | | 148 | 5 | | 148 | 148 | 148 |
| 3-4 | | | | | 130 | 3 | | 130 | 130 | 130 |
| 4-5 | | | | | 162 | 2 | | 162 | 162 | 162 |
| 5-6 | | | | | 166 | 3 | | 166 | 166 | 166 |
| 6-7 | | | | | 134 | 4 | | 134 | 134 | 134 |
| 7-8 | | | | | 102 | | | 102 | 102 | 102 |
| 8-9 | | | | | 83 | | | 83 | 83 | 83 |
| 9-10 | | | | | 54 | | | 54 | 54 | 54 |
| 10-11 | | | | | 59 | | | 59 | 59 | 59 |
| 11-12 | | | | | 19 | | | 19 | 19 | 19 |
| 24 HR TOTAL | | | | | 1568 | 737 | | 2305 | 2305 | 2305 |

Factor: 0.98

AAWT

Factored Total 2259

900 McLean Dr [Kilpatrick - Cottage Grove]
 402204
 combined
 TRAFFIC ENGINEERING DIVISION
 CITY OF MADISON, WI
 AUTOMATIC TRAFFIC COUNTER RECORD

START TIME 1000 on 7/28/2010
 END TIME 1000 on 7/29/2010

| Day | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday | TOTAL M-F | AWT | ADT |
|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------|--------|
| Date | 02-Aug-10 | 03-Aug-10 | 28-Jul-10 | 29-Jul-10 | 30-Jul-10 | 31-Jul-10 | 01-Aug-10 | Volume | Volume | Volume |
| AM 12-1 | | | | 3 | | | | 3 | | 3 |
| 1-2 | | | | | | | | | | |
| 2-3 | | | | | | | | | | |
| 3-4 | | | | 2 | | | | 2 | | 2 |
| 4-5 | | | | 1 | | | | 1 | | 1 |
| 5-6 | | | | 14 | | | | 14 | | 14 |
| 6-7 | | | | 22 | | | | 22 | | 22 |
| 7-8 | | | | 35 | | | | 35 | | 35 |
| 8-9 | | | | 31 | | | | 31 | | 31 |
| 9-10 | | | | 26 | | | | 26 | | 26 |
| 10-11 | | | 25 | | | | | 25 | | 25 |
| 11-12 | | | 25 | | | | | 25 | | 25 |
| PM 12-1 | | | 48 | | | | | 48 | | 48 |
| 1-2 | | | 26 | | | | | 26 | | 26 |
| 2-3 | | | 20 | | | | | 20 | | 20 |
| 3-4 | | | 41 | | | | | 41 | | 41 |
| 4-5 | | | 48 | | | | | 48 | | 48 |
| 5-6 | | | 71 | | | | | 71 | | 71 |
| 6-7 | | | 47 | | | | | 47 | | 47 |
| 7-8 | | | 24 | | | | | 24 | | 24 |
| 8-9 | | | 26 | | | | | 26 | | 26 |
| 9-10 | | | 25 | | | | | 25 | | 25 |
| 10-11 | | | 11 | | | | | 11 | | 11 |
| 11-12 | | | 14 | | | | | 14 | | 14 |
| 24 HR TOTAL | | | 451 | 134 | | | | 585 | 585 | 585 |

Factor 0.98

AAWT

Factored Total 573

LOCATION 900 McLean Dr [Kilpatrick - Cottage Grove]

STATION# 402204

DIRECTION N.B.

REMARKS

START TIME 1000 on 7/28/2010

END TIME 1000 on 7/29/2010

TRAFFIC ENGINEERING DIVISION
CITY OF MADISON, WI
AUTOMATIC TRAFFIC COUNTER RECORD

| Day | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday | TOTAL M-F | AWT | ADT |
|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------|--------|
| | 02-Aug-10 | 03-Aug-10 | 28-Jul-10 | 29-Jul-10 | 30-Jul-10 | 31-Jul-10 | 01-Aug-10 | Volume | Volume | Volume |
| AM 12-1 | | | | | 2 | | | 2 | 2 | 2 |
| 1-2 | | | | | | | | | | |
| 2-3 | | | | | | | | | | |
| 3-4 | | | | | | | | | | |
| 4-5 | | | | | | | | | | |
| 5-6 | | | | | 2 | | | 2 | 2 | 2 |
| 6-7 | | | | | 3 | | | 3 | 3 | 3 |
| 7-8 | | | | | 4 | | | 4 | 4 | 4 |
| 8-9 | | | | | 7 | | | 7 | 7 | 7 |
| 9-10 | | | | 13 | | | | 13 | 13 | 13 |
| 10-11 | | | 11 | | | | | 11 | 11 | 11 |
| 11-12 | | | 15 | | | | | 15 | 15 | 15 |
| PM 12-1 | | | 21 | | | | | 21 | 21 | 21 |
| 1-2 | | | 12 | | | | | 12 | 12 | 12 |
| 2-3 | | | 11 | | | | | 11 | 11 | 11 |
| 3-4 | | | 25 | | | | | 25 | 25 | 25 |
| 4-5 | | | 30 | | | | | 30 | 30 | 30 |
| 5-6 | | | 39 | | | | | 39 | 39 | 39 |
| 6-7 | | | 25 | | | | | 25 | 25 | 25 |
| 7-8 | | | 17 | | | | | 17 | 17 | 17 |
| 8-9 | | | 14 | | | | | 14 | 14 | 14 |
| 9-10 | | | 16 | | | | | 16 | 16 | 16 |
| 10-11 | | | 8 | | | | | 8 | 8 | 8 |
| 11-12 | | | 12 | | | | | 12 | 12 | 12 |
| 24 HR TOTAL | | | 256 | 31 | | | | 287 | 287 | 287 |

Factor 0.98

AAWT

Factored Total 281

LOCATION 900 McLean Dr (Kilpatrick - Cottage Grove)
 STATION# 402204
 DIRECTION S.B.

TRAFFIC ENGINEERING DIVISION
 CITY OF MADISON, WI
 AUTOMATIC TRAFFIC COUNTER RECORD

START TIME 1000 on 7/28/2010
 END TIME 1000 on 7/29/2010

| Day Date | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday | TOTAL M-F | AWT | ADT |
|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------|--------|
| | 02-Aug-10 | 03-Aug-10 | 28-Jul-10 | 29-Jul-10 | 30-Jul-10 | 31-Jul-10 | 01-Aug-10 | Volume | Volume | Volume |
| AM 12-1 | | | | | 1 | | | 1 | 1 | 1 |
| 1-2 | | | | | | | | | | |
| 2-3 | | | | | | | | | | |
| 3-4 | | | | | 2 | | | 2 | 2 | 2 |
| 4-5 | | | | | 1 | | | 1 | 1 | 1 |
| 5-6 | | | | | 12 | | | 12 | 12 | 12 |
| 6-7 | | | | | 19 | | | 19 | 19 | 19 |
| 7-8 | | | | | 31 | | | 31 | 31 | 31 |
| 8-9 | | | | | 24 | | | 24 | 24 | 24 |
| 9-10 | | | | | 13 | | | 13 | 13 | 13 |
| 10-11 | | | | 14 | | | | 14 | 14 | 14 |
| 11-12 | | | | 10 | | | | 10 | 10 | 10 |
| PM 12-1 | | | | 27 | | | | 27 | 27 | 27 |
| 1-2 | | | | 14 | | | | 14 | 14 | 14 |
| 2-3 | | | | 9 | | | | 9 | 9 | 9 |
| 3-4 | | | | 16 | | | | 16 | 16 | 16 |
| 4-5 | | | | 18 | | | | 18 | 18 | 18 |
| 5-6 | | | | 32 | | | | 32 | 32 | 32 |
| 6-7 | | | | 22 | | | | 22 | 22 | 22 |
| 7-8 | | | | 7 | | | | 7 | 7 | 7 |
| 8-9 | | | | 12 | | | | 12 | 12 | 12 |
| 9-10 | | | | 9 | | | | 9 | 9 | 9 |
| 10-11 | | | | 3 | | | | 3 | 3 | 3 |
| 11-12 | | | | 2 | | | | 2 | 2 | 2 |
| 24 HR TOTAL | | | 195 | 103 | | | | 298 | 298 | 298 |

Factor 0.98

AAWT

Factored Total 292

LOCATION 1000 McLean Dr [Cottage Grove - Fredricksburg]

STATION# 402203

DIRECTION combined

REMARKS

START TIME 1000 on 7/28/2010

END TIME 1000 on 7/29/2010

TRAFFIC ENGINEERING DIVISION
CITY OF MADISON, WI
AUTOMATIC TRAFFIC COUNTER RECORD

| Day | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday | TOTAL M-F | AWT | ADT |
|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------|--------|
| Date | 02-Aug-10 | 03-Aug-10 | 28-Jul-10 | 29-Jul-10 | 30-Jul-10 | 31-Jul-10 | 01-Aug-10 | Volume | Volume | Volume |
| AM 12-1 | | | | 18 | | | | 18 | 18 | 18 |
| 1-2 | | | | 9 | | | | 9 | 9 | 9 |
| 2-3 | | | | 3 | | | | 3 | 3 | 3 |
| 3-4 | | | | 10 | | | | 10 | 10 | 10 |
| 4-5 | | | | 5 | | | | 5 | 5 | 5 |
| 5-6 | | | | 41 | | | | 41 | 41 | 41 |
| 6-7 | | | | 59 | | | | 59 | 59 | 59 |
| 7-8 | | | | 133 | | | | 133 | 133 | 133 |
| 8-9 | | | | 114 | | | | 114 | 114 | 114 |
| 9-10 | | | | 105 | | | | 105 | 105 | 105 |
| 10-11 | | | 110 | | | | | 110 | 110 | 110 |
| 11-12 | | | 134 | | | | | 134 | 134 | 134 |
| PM 12-1 | | | 142 | | | | | 142 | 142 | 142 |
| 1-2 | | | 135 | | | | | 135 | 135 | 135 |
| 2-3 | | | 136 | | | | | 136 | 136 | 136 |
| 3-4 | | | 158 | | | | | 158 | 158 | 158 |
| 4-5 | | | 202 | | | | | 202 | 202 | 202 |
| 5-6 | | | 216 | | | | | 216 | 216 | 216 |
| 6-7 | | | 185 | | | | | 185 | 185 | 185 |
| 7-8 | | | 128 | | | | | 128 | 128 | 128 |
| 8-9 | | | 146 | | | | | 146 | 146 | 146 |
| 9-10 | | | 106 | | | | | 106 | 106 | 106 |
| 10-11 | | | 45 | | | | | 45 | 45 | 45 |
| 11-12 | | | 20 | | | | | 20 | 20 | 20 |
| 24 HR TOTAL | | | 1863 | 497 | | | | 2360 | 2360 | 2360 |

Factor 0.98

AAWT

Factored Total 2313

LOCATION 1000 McLean Dr [Cottage Grove - Fredricksburg]

STATION# 402203

DIRECTION N.B.

REMARKS

START TIME 1000 on 7/28/2010

END TIME 1000 on 7/29/2010

TRAFFIC ENGINEERING DIVISION

CITY OF MADISON, WI

AUTOMATIC TRAFFIC COUNTER RECORD

| Day Date | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday | TOTAL M-F | | ADT |
|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------|--------|
| | 02-Aug-10 | 03-Aug-10 | 28-Jul-10 | 29-Jul-10 | 30-Jul-10 | 31-Jul-10 | 01-Aug-10 | Volume | Volume | Volume |
| AM 12-1 | | | | | 10 | | | 10 | 10 | 10 |
| 1-2 | | | | | 1 | | | 1 | 1 | 1 |
| 2-3 | | | | | 1 | | | 1 | 1 | 1 |
| 3-4 | | | | | 8 | | | 8 | 8 | 8 |
| 4-5 | | | | | 4 | | | 4 | 4 | 4 |
| 5-6 | | | | | 34 | | | 34 | 34 | 34 |
| 6-7 | | | | | 44 | | | 44 | 44 | 44 |
| 7-8 | | | | | 108 | | | 108 | 108 | 108 |
| 8-9 | | | | | 75 | | | 75 | 75 | 75 |
| 9-10 | | | | | 61 | | | 61 | 61 | 61 |
| 10-11 | | | | 60 | | | | 60 | 60 | 60 |
| 11-12 | | | | 76 | | | | 76 | 76 | 76 |
| PM 12-1 | | | | 69 | | | | 69 | 69 | 69 |
| 1-2 | | | | 75 | | | | 75 | 75 | 75 |
| 2-3 | | | | 65 | | | | 65 | 65 | 65 |
| 3-4 | | | | 68 | | | | 68 | 68 | 68 |
| 4-5 | | | | 78 | | | | 78 | 78 | 78 |
| 5-6 | | | | 92 | | | | 92 | 92 | 92 |
| 6-7 | | | | 70 | | | | 70 | 70 | 70 |
| 7-8 | | | | 53 | | | | 53 | 53 | 53 |
| 8-9 | | | | 60 | | | | 60 | 60 | 60 |
| 9-10 | | | | 42 | | | | 42 | 42 | 42 |
| 10-11 | | | | 15 | | | | 15 | 15 | 15 |
| 11-12 | | | | 11 | | | | 11 | 11 | 11 |
| 24 HR TOTAL | | | 834 | 346 | | | | 1180 | 1180 | 1180 |

Factor 0.98

AAWT

Factored Total 1156

LOCATION 1000 McLean Dr (Cottage Grove - Fredricksburg)

STATION# 402203

DIRECTION S.B.

REMARKS

START TIME 1000 on 7/28/2010

END TIME 1000 on 7/29/2010

TRAFFIC ENGINEERING DIVISION

CITY OF MADISON, WI

AUTOMATIC TRAFFIC COUNTER RECORD

| Day Date | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday | TOTAL M-F | AWT | ADT |
|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------|--------|
| | 02-Aug-10 | 03-Aug-10 | 28-Jul-10 | 29-Jul-10 | 30-Jul-10 | 31-Jul-10 | 01-Aug-10 | Volume | Volume | Volume |
| AM 12-1 | | | | | 8 | | | 8 | 8 | 8 |
| 1-2 | | | | | 8 | | | 8 | 8 | 8 |
| 2-3 | | | | | 2 | | | 2 | 2 | 2 |
| 3-4 | | | | | 2 | | | 2 | 2 | 2 |
| 4-5 | | | | | 1 | | | 1 | 1 | 1 |
| 5-6 | | | | | 7 | | | 7 | 7 | 7 |
| 6-7 | | | | | 15 | | | 15 | 15 | 15 |
| 7-8 | | | | | 25 | | | 25 | 25 | 25 |
| 8-9 | | | | | 39 | | | 39 | 39 | 39 |
| 9-10 | | | | | 44 | | | 44 | 44 | 44 |
| 10-11 | | | | 50 | | | | 50 | 50 | 50 |
| 11-12 | | | | 58 | | | | 58 | 58 | 58 |
| PM 12-1 | | | | 73 | | | | 73 | 73 | 73 |
| 1-2 | | | | 60 | | | | 60 | 60 | 60 |
| 2-3 | | | | 71 | | | | 71 | 71 | 71 |
| 3-4 | | | | 90 | | | | 90 | 90 | 90 |
| 4-5 | | | | 124 | | | | 124 | 124 | 124 |
| 5-6 | | | | 124 | | | | 124 | 124 | 124 |
| 6-7 | | | | 115 | | | | 115 | 115 | 115 |
| 7-8 | | | | 75 | | | | 75 | 75 | 75 |
| 8-9 | | | | 86 | | | | 86 | 86 | 86 |
| 9-10 | | | | 64 | | | | 64 | 64 | 64 |
| 10-11 | | | | 30 | | | | 30 | 30 | 30 |
| 11-12 | | | | 9 | | | | 9 | 9 | 9 |
| 24 HR TOTAL | | | 1029 | 151 | | | | 1180 | 1180 | 1180 |

Factor 0.98

AAWT

Factored Total 1156

LOCATION 900 SPRECHER RD 1150 FT NORTH OF COTTAGE GR R

STATION# 397303

DIRECTION combined

REMARKS AUTOMATIC TRAFFIC COUNTER RECORD

START TIME 1300 on 7/21/2010

END TIME 1300 on 7/22/2010

TRAFFIC ENGINEERING DIVISION
CITY OF MADISON, WI

| Day | Monday 26-Jul-10 | Tuesday 27-Jul-10 | Wednesday 21-Jul-10 | Thursday 22-Jul-10 | Friday 23-Jul-10 | Saturday 24-Jul-10 | Sunday 25-Jul-10 | TOTAL M-F Volume | AWT Volume | ADT Volume |
|-------------|---------------------|----------------------|------------------------|-----------------------|---------------------|-----------------------|---------------------|---------------------|---------------|---------------|
| AM 12-1 | | | | 37 | | | | 37 | 37 | 37 |
| 1-2 | | | | 35 | | | | 35 | 35 | 35 |
| 2-3 | | | | 21 | | | | 21 | 21 | 21 |
| 3-4 | | | | 24 | | | | 24 | 24 | 24 |
| 4-5 | | | | 45 | | | | 45 | 45 | 45 |
| 5-6 | | | | 118 | | | | 118 | 118 | 118 |
| 6-7 | | | | 352 | | | | 352 | 352 | 352 |
| 7-8 | | | | 622 | | | | 622 | 622 | 622 |
| 8-9 | | | | 473 | | | | 473 | 473 | 473 |
| 9-10 | | | | 481 | | | | 481 | 481 | 481 |
| 10-11 | | | | 334 | | | | 334 | 334 | 334 |
| 11-12 | | | | 453 | | | | 453 | 453 | 453 |
| PM 12-1 | | | | 482 | | | | 482 | 482 | 482 |
| 1-2 | | 500 | | | | | | 500 | 500 | 500 |
| 2-3 | | 516 | | | | | | 516 | 516 | 516 |
| 3-4 | | 655 | | | | | | 655 | 655 | 655 |
| 4-5 | | 920 | | | | | | 920 | 920 | 920 |
| 5-6 | | 962 | | | | | | 962 | 962 | 962 |
| 6-7 | | 580 | | | | | | 580 | 580 | 580 |
| 7-8 | | 458 | | | | | | 458 | 458 | 458 |
| 8-9 | | 394 | | | | | | 394 | 394 | 394 |
| 9-10 | | 289 | | | | | | 289 | 289 | 289 |
| 10-11 | | 150 | | | | | | 150 | 150 | 150 |
| 11-12 | | 83 | | | | | | 83 | 83 | 83 |
| 24 HR TOTAL | | 5507 | | 3477 | | | | 8984 | 8984 | 8984 |

Factor 0.98

AAWT

Factored Total 8804

TRAFFIC ENGINEERING DIVISION
 CITY OF MADISON, WI
 AUTOMATIC TRAFFIC COUNTER RECORD

LOCATION 900 SPRECHER RD 150 FT NORTH OF COTTAGE GR R
 STATION# 397303
 DIRECTION (N&S)
 REMARKS
 START TIME 1300 on 7/21/2010
 END TIME 1300 on 7/22/2010

| Day Date | Monday 26-Jul-10 | | Tuesday 27-Jul-10 | | Wednesday 21-Jul-10 | | Thursday 22-Jul-10 | | Friday 23-Jul-10 | | Saturday 24-Jul-10 | | Sunday 25-Jul-10 | | TOTAL M-F Volume | | AWT Volume | | ADT Volume | |
|-------------|---------------------|--|----------------------|--|------------------------|--|-----------------------|--|---------------------|--|-----------------------|--|---------------------|--|---------------------|------|---------------|--|---------------|------|
| | | | | | | | | | | | | | | | | | | | | |
| AM 12-1 | | | | | | | | | 21 | | | | | | | 21 | | | | 21 |
| 1-2 | | | | | | | | | 21 | | | | | | | 21 | | | | 21 |
| 2-3 | | | | | | | | | 10 | | | | | | | 10 | | | | 10 |
| 3-4 | | | | | | | | | 10 | | | | | | | 10 | | | | 10 |
| 4-5 | | | | | | | | | 18 | | | | | | | 18 | | | | 18 |
| 5-6 | | | | | | | | | 42 | | | | | | | 42 | | | | 42 |
| 6-7 | | | | | | | | | 163 | | | | | | | 163 | | | | 163 |
| 7-8 | | | | | | | | | 275 | | | | | | | 275 | | | | 275 |
| 8-9 | | | | | | | | | 211 | | | | | | | 211 | | | | 211 |
| 9-10 | | | | | | | | | 185 | | | | | | | 185 | | | | 185 |
| 10-11 | | | | | | | | | 169 | | | | | | | 169 | | | | 169 |
| 11-12 | | | | | | | | | 243 | | | | | | | 243 | | | | 243 |
| PM 12-1 | | | | | | | | | 248 | | | | | | | 248 | | | | 248 |
| 1-2 | | | | | | | | | 243 | | | | | | | 243 | | | | 243 |
| 2-3 | | | | | | | | | 251 | | | | | | | 251 | | | | 251 |
| 3-4 | | | | | | | | | 343 | | | | | | | 343 | | | | 343 |
| 4-5 | | | | | | | | | 497 | | | | | | | 497 | | | | 497 |
| 5-6 | | | | | | | | | 530 | | | | | | | 530 | | | | 530 |
| 6-7 | | | | | | | | | 290 | | | | | | | 290 | | | | 290 |
| 7-8 | | | | | | | | | 234 | | | | | | | 234 | | | | 234 |
| 8-9 | | | | | | | | | 209 | | | | | | | 209 | | | | 209 |
| 9-10 | | | | | | | | | 134 | | | | | | | 134 | | | | 134 |
| 10-11 | | | | | | | | | 69 | | | | | | | 69 | | | | 69 |
| 11-12 | | | | | | | | | 40 | | | | | | | 40 | | | | 40 |
| 24 HR TOTAL | | | | | | | | | 2840 | | | | | | | 4456 | | | | 4456 |

Factor 0.98

AAWT

Factored Total 4367

LOCATION 900 SPRECHER RD 150 FT NORTH OF COTTAGE GR R

STATION# 397303

DIRECTION W.B. (S.B.)

REMARKS

START TIME 1300 on 7/21/2010

END TIME 1300 on 7/22/2010

TRAFFIC ENGINEERING DIVISION
CITY OF MADISON, WI
AUTOMATIC TRAFFIC COUNTER RECORD

| Day Date | Monday | | Tuesday | | Wednesday | | Thursday | | Friday | | Saturday | | Sunday | | TOTAL M-F | | AWT | | ADT | | |
|-------------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|--------|--------|--------|--------|--------|--------|
| | 26-Jul-10 | 27-Jul-10 | 28-Jul-10 | 29-Jul-10 | 30-Jul-10 | 31-Jul-10 | 1-Aug-10 | 2-Aug-10 | 3-Aug-10 | 4-Aug-10 | 5-Aug-10 | 6-Aug-10 | 7-Aug-10 | 8-Aug-10 | 9-Aug-10 | Volume | Volume | Volume | Volume | Volume | Volume |
| AM 12-1 | | | | | | | | | 16 | | | | | | | 16 | 16 | 16 | 16 | 16 | 16 |
| 1-2 | | | | | | | | | 14 | | | | | | | 14 | 14 | 14 | 14 | 14 | 14 |
| 2-3 | | | | | | | | | 11 | | | | | | | 11 | 11 | 11 | 11 | 11 | 11 |
| 3-4 | | | | | | | | | 14 | | | | | | | 14 | 14 | 14 | 14 | 14 | 14 |
| 4-5 | | | | | | | | | 27 | | | | | | | 27 | 27 | 27 | 27 | 27 | 27 |
| 5-6 | | | | | | | | | 76 | | | | | | | 76 | 76 | 76 | 76 | 76 | 76 |
| 6-7 | | | | | | | | | 189 | | | | | | | 189 | 189 | 189 | 189 | 189 | 189 |
| 7-8 | | | | | | | | | 347 | | | | | | | 347 | 347 | 347 | 347 | 347 | 347 |
| 8-9 | | | | | | | | | 262 | | | | | | | 262 | 262 | 262 | 262 | 262 | 262 |
| 9-10 | | | | | | | | | 296 | | | | | | | 296 | 296 | 296 | 296 | 296 | 296 |
| 10-11 | | | | | | | | | 165 | | | | | | | 165 | 165 | 165 | 165 | 165 | 165 |
| 11-12 | | | | | | | | | 210 | | | | | | | 210 | 210 | 210 | 210 | 210 | 210 |
| PM 12-1 | | | | | | | | | 234 | | | | | | | 234 | 234 | 234 | 234 | 234 | 234 |
| 1-2 | | | | | | | | | 257 | | | | | | | 257 | 257 | 257 | 257 | 257 | 257 |
| 2-3 | | | | | | | | | 265 | | | | | | | 265 | 265 | 265 | 265 | 265 | 265 |
| 3-4 | | | | | | | | | 312 | | | | | | | 312 | 312 | 312 | 312 | 312 | 312 |
| 4-5 | | | | | | | | | 423 | | | | | | | 423 | 423 | 423 | 423 | 423 | 423 |
| 5-6 | | | | | | | | | 432 | | | | | | | 432 | 432 | 432 | 432 | 432 | 432 |
| 6-7 | | | | | | | | | 290 | | | | | | | 290 | 290 | 290 | 290 | 290 | 290 |
| 7-8 | | | | | | | | | 224 | | | | | | | 224 | 224 | 224 | 224 | 224 | 224 |
| 8-9 | | | | | | | | | 185 | | | | | | | 185 | 185 | 185 | 185 | 185 | 185 |
| 9-10 | | | | | | | | | 155 | | | | | | | 155 | 155 | 155 | 155 | 155 | 155 |
| 10-11 | | | | | | | | | 81 | | | | | | | 81 | 81 | 81 | 81 | 81 | 81 |
| 11-12 | | | | | | | | | 43 | | | | | | | 43 | 43 | 43 | 43 | 43 | 43 |
| 24 HR TOTAL | | | | | | | | | 2667 | | | | | | | 1861 | 4528 | 4528 | 4528 | 4528 | 4528 |

Factor 0.98

AAWT

Factored Total 4437

LOCATION 1100S SPRECHER RD IS. OF COTTAGE GR RD.I

STATION# 397306

DIRECTION NON-DIR

REMARKS

START TIME 1300 on 7/21/2010

END TIME 1300 on 7/22/2010

TRAFFIC ENGINEERING DIVISION
CITY OF MADISON, WI
AUTOMATIC TRAFFIC COUNTER RECORD

| Day Date | Monday | | Tuesday | | Wednesday | | Thursday | | Friday | | Saturday | | Sunday | | TOTAL M-F | | AWT | | ADT | |
|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------|--------|--------|--------|--------|
| | 26-Jul-10 | 27-Jul-10 | 27-Jul-10 | 28-Jul-10 | 21-Jul-10 | 22-Jul-10 | 22-Jul-10 | 23-Jul-10 | 23-Jul-10 | 24-Jul-10 | 24-Jul-10 | 24-Jul-10 | 25-Jul-10 | 25-Jul-10 | Volume | Volume | Volume | Volume | Volume | Volume |
| AM 12-1 | | | | | | | | | 26 | | | | | | 26 | | | 26 | | 26 |
| 1-2 | | | | | | | | | 29 | | | | | | 29 | | | 29 | | 29 |
| 2-3 | | | | | | | | | 9 | | | | | | 9 | | | 9 | | 9 |
| 3-4 | | | | | | | | | 13 | | | | | | 13 | | | 13 | | 13 |
| 4-5 | | | | | | | | | 33 | | | | | | 33 | | | 33 | | 33 |
| 5-6 | | | | | | | | | 99 | | | | | | 99 | | | 99 | | 99 |
| 6-7 | | | | | | | | | 285 | | | | | | 285 | | | 285 | | 285 |
| 7-8 | | | | | | | | | 508 | | | | | | 508 | | | 508 | | 508 |
| 8-9 | | | | | | | | | 362 | | | | | | 362 | | | 362 | | 362 |
| 9-10 | | | | | | | | | 351 | | | | | | 351 | | | 351 | | 351 |
| 10-11 | | | | | | | | | 228 | | | | | | 228 | | | 228 | | 228 |
| 11-12 | | | | | | | | | 284 | | | | | | 284 | | | 284 | | 284 |
| PM 12-1 | | | | | | | | | 324 | | | | | | 324 | | | 324 | | 324 |
| 1-2 | | | | | | | | | 319 | | | | | | 319 | | | 319 | | 319 |
| 2-3 | | | | | | | | | 334 | | | | | | 334 | | | 334 | | 334 |
| 3-4 | | | | | | | | | 450 | | | | | | 450 | | | 450 | | 450 |
| 4-5 | | | | | | | | | 623 | | | | | | 623 | | | 623 | | 623 |
| 5-6 | | | | | | | | | 684 | | | | | | 684 | | | 684 | | 684 |
| 6-7 | | | | | | | | | 331 | | | | | | 331 | | | 331 | | 331 |
| 7-8 | | | | | | | | | 259 | | | | | | 259 | | | 259 | | 259 |
| 8-9 | | | | | | | | | 256 | | | | | | 256 | | | 256 | | 256 |
| 9-10 | | | | | | | | | 194 | | | | | | 194 | | | 194 | | 194 |
| 10-11 | | | | | | | | | 102 | | | | | | 102 | | | 102 | | 102 |
| 11-12 | | | | | | | | | 78 | | | | | | 78 | | | 78 | | 78 |
| 24 HR TOTAL | | | | | | | | | 3630 | | | | | | 2551 | | | 6181 | | 6181 |

Factor 0.98

AAWT

Factored Total 6057

LOCATION 6400 Sharpsburg Dr [Malvern Hill - Sprecher]

STATION# 397308

DIRECTION NON-DIR

REMARKS

START TIME 1500 on 7/27/2010

END TIME 1500 on 7/28/2010

TRAFFIC ENGINEERING DIVISION
CITY OF MADISON, WI
AUTOMATIC TRAFFIC COUNTER RECORD

| Day Date | Monday 02-Aug-10 | | Tuesday 27-Jul-10 | | Wednesday 28-Jul-10 | | Thursday 29-Jul-10 | | Friday 30-Jul-10 | | Saturday 31-Jul-10 | | Sunday 01-Aug-10 | | TOTAL M-F Volume | | AWT Volume | | ADT Volume | | |
|-------------|---------------------|--|----------------------|--|------------------------|--|-----------------------|--|---------------------|--|-----------------------|--|---------------------|--|---------------------|-----|---------------|--|---------------|--|-----|
| | | | | | | | | | | | | | | | | | | | | | |
| AM 12-1 | | | | | | | | | | | | | | | | | | | | | |
| 1-2 | | | | | | | | | | | | | | | | | | | | | |
| 2-3 | | | | | | | 2 | | | | | | | | | | 2 | | | | 2 |
| 3-4 | | | | | | | | | | | | | | | | | | | | | |
| 4-5 | | | | | | | 3 | | | | | | | | | | 3 | | | | 3 |
| 5-6 | | | | | | | 7 | | | | | | | | | | 7 | | | | 7 |
| 6-7 | | | | | | | 19 | | | | | | | | | | 19 | | | | 19 |
| 7-8 | | | | | | | 48 | | | | | | | | | | 48 | | | | 48 |
| 8-9 | | | | | | | 53 | | | | | | | | | | 53 | | | | 53 |
| 9-10 | | | | | | | 47 | | | | | | | | | | 47 | | | | 47 |
| 10-11 | | | | | | | 45 | | | | | | | | | | 45 | | | | 45 |
| 11-12 | | | | | | | 34 | | | | | | | | | | 34 | | | | 34 |
| PM 12-1 | | | | | | | 48 | | | | | | | | | | 48 | | | | 48 |
| 1-2 | | | | | | | 32 | | | | | | | | | | 32 | | | | 32 |
| 2-3 | | | | | | | 41 | | | | | | | | | | 41 | | | | 41 |
| 3-4 | | | | | | | | | | | | | | | | | | | | | |
| 4-5 | | | | | | | | | | | | | | | | | | | | | |
| 5-6 | | | | | | | | | | | | | | | | | | | | | |
| 6-7 | | | | | | | | | | | | | | | | | | | | | |
| 7-8 | | | | | | | | | | | | | | | | | | | | | |
| 8-9 | | | | | | | | | | | | | | | | | | | | | |
| 9-10 | | | | | | | | | | | | | | | | | | | | | |
| 10-11 | | | | | | | | | | | | | | | | | | | | | |
| 11-12 | | | | | | | | | | | | | | | | | | | | | |
| 24 HR TOTAL | | | | | | | 378 | | | | | | | | | 378 | | | | | 378 |
| | | | | | | | | | | | | | | | | | 757 | | | | 757 |

Factor 0.98

AAWT

Factored Total 742

STATION NUMBER 130263 AWDT

Cottage Grove Rd "BB" C.T.H. (East of I 39-90-94)
STATE COUNTS

| YEAR | JAN | FEB | MAR | APR | MAY | JUN | JULY | AUG | SEPT | OCT | NOV | DEC | TOTAL | AVG. |
|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|--------|---------|
| 1995 | | | | | | | | | | | | | 0 | #DIV/0! |
| 1996 | | | | | | | | | | | | | 0 | #DIV/0! |
| 1997 | | | | | | | | | | | | | 0 | #DIV/0! |
| 1998 | | | | | | | | | | | | | 0 | #DIV/0! |
| 1999 | | | | | | | | | | | | | 0 | #DIV/0! |
| 2000 | | | | | | | | | | | | | 0 | #DIV/0! |
| 2001 | | | | | | | | | | | | 8075 | 8075 | 8075 |
| 2002 | 8377 | 8435 | 8322 | 9231 | 10205 | 11447 | 10178 | 10178 | 9650 | | | | 86023 | 9558 |
| 2003 | | | | | | | | | | | | | 0 | #DIV/0! |
| 2004 | | | | | | | | 10930 | 11024 | 10214 | 9420 | 9313 | 50901 | 10180 |
| 2005 | 9275 | 9330 | | | 11019 | 10892 | 10551 | 10766 | 10368 | 9660 | | | 81861 | 10233 |
| 2006 | | 9144 | 9487 | 10589 | 11156 | 11538 | | | | | | | 51914 | 10383 |
| 2007 | | | | | | 10708 | | 10324 | 10049 | 10180 | | | 50131 | 10026 |
| 2008 | 9518 | | 9371 | 9882 | 11071 | 15842 | 15871 | 15612 | 15521 | 15222 | | 8870 | 127282 | 12728 |
| 2009 | 9133 | 9651 | 9966 | 10555 | 11211 | 11084 | 10457 | 10479 | 10496 | 10375 | 10063 | | 113470 | 10315 |
| 2010 | | | | | | | | | | | | | 0 | #DIV/0! |
| 2011 | | | | | | | | | | | | | 0 | #DIV/0! |
| 2012 | | | | | | | | | | | | | 0 | #DIV/0! |
| 2013 | | | | | | | | | | | | | 0 | #DIV/0! |
| 2014 | | | | | | | | | | | | | 0 | #DIV/0! |
| 2015 | | | | | | | | | | | | | 0 | #DIV/0! |
| 2016 | | | | | | | | | | | | | 0 | #DIV/0! |
| 2017 | | | | | | | | | | | | | 0 | #DIV/0! |

Wisconsin Department of Transportation

Monthly Volume Calendar

Site Names: 130263, , SW
 County: Dane
 Funct. Class: R Minor Arterial - Other
 Location: CTH BB - EAST OF I-39-90-94

Num Days: 30
 MADT: 8,703
 MAWDT: 9,133
 MAWET: 7,302

January 2009

| | Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---------|--------|--------|---------|-----------|----------|--------|----------|
| | | | | | 1 | 2 | 3 |
| Road | | | | | | 5,435 | 7,654 |
| Neg DIR | | | | | | 2,820 | 3,938 |
| Pos DIR | | | | | | 2,615 | 3,716 |
| | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| | | 5,708 | 9,488 | 9,791 | | 10,048 | 8,261 |
| | | 2,981 | 4,947 | 5,020 | | 5,209 | 4,347 |
| | | 2,727 | 4,541 | 4,771 | | 4,839 | 3,914 |
| | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| | | 6,732 | 9,702 | 9,062 | 9,320 | 7,826 | 8,120 |
| | | 3,499 | 5,005 | 4,760 | 4,865 | 4,056 | 4,220 |
| | | 3,233 | 4,697 | 4,302 | 4,455 | 3,770 | 3,900 |
| | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| | | 6,683 | 8,472 | 9,170 | 9,774 | 9,674 | 8,054 |
| | | 3,437 | 4,365 | 4,841 | 5,120 | 5,039 | 4,204 |
| | | 3,246 | 4,107 | 4,329 | 4,654 | 4,635 | 3,850 |
| | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| | | 6,688 | 9,356 | 9,591 | 9,277 | 9,099 | 8,665 |
| | | 3,446 | 4,900 | 4,948 | 4,852 | 4,768 | 4,474 |
| | | 3,242 | 4,456 | 4,643 | 4,425 | 4,331 | 4,191 |
| MADW | | 6,453 | 9,255 | 9,404 | 9,457 | 8,416 | 8,151 |
| STD | | 497 | 541 | 345 | 275 | 1,867 | 365 |
| DAF | | 1.35 | 0.94 | 0.93 | 0.92 | 1.03 | 1.07 |

Wisconsin Department of Transportation

Monthly Hourly Day of Week Summary for January 2009

Site Names: 130263, , SW
 County: Dane
 Funct. Class: R Minor Arterial - Other
 Location: CTH BB - EAST OF I-39-90-94

Seasonal Factor Group: 4
 Daily Factor Group: 4
 Axle Factor Group: 2
 Growth Factor Group: 1

| | Sunday | | Monday | | Tuesday | | Wednesday | | Thursday | | Friday | | Saturday | |
|-------|--------|-------------------|--------|-------------------|---------|-------------------|-----------|-------------------|----------|-------------------|--------|-------------------|----------|-------------------|
| | Road | Neg DIR Pos DIR | Road | Neg DIR Pos DIR | Road | Neg DIR Pos DIR | Road | Neg DIR Pos DIR | Road | Neg DIR Pos DIR | Road | Neg DIR Pos DIR | Road | Neg DIR Pos DIR |
| 0:00 | 100 | 41 60 | 24 | 10 14 | 40 | 16 24 | 31 | 12 19 | 79 | 37 42 | 46 | 16 30 | 94 | 35 59 |
| 1:00 | 58 | 26 33 | 21 | 9 12 | 22 | 10 12 | 20 | 9 11 | 60 | 27 33 | 27 | 13 15 | 61 | 24 37 |
| 2:00 | 55 | 20 35 | 15 | 4 11 | 22 | 11 11 | 13 | 5 9 | 40 | 15 25 | 21 | 7 14 | 48 | 18 29 |
| 3:00 | 26 | 11 15 | 8 | 6 8 | 23 | 14 9 | 18 | 10 8 | 26 | 14 21 | 21 | 13 8 | 29 | 13 17 |
| 4:00 | 20 | 11 9 | 32 | 25 7 | 39 | 29 10 | 34 | 25 9 | 35 | 22 13 | 39 | 20 19 | 31 | 18 13 |
| 5:00 | 38 | 26 12 | 125 | 103 22 | 149 | 120 29 | 136 | 112 24 | 122 | 98 24 | 119 | 96 23 | 51 | 37 13 |
| 6:00 | 65 | 49 16 | 312 | 242 70 | 348 | 268 80 | 363 | 283 80 | 273 | 207 66 | 309 | 241 68 | 94 | 67 26 |
| 7:00 | 143 | 102 41 | 850 | 676 173 | 955 | 777 177 | 920 | 740 158 | 658 | 531 128 | 722 | 581 141 | 193 | 127 66 |
| 8:00 | 275 | 173 102 | 594 | 421 173 | 602 | 426 176 | 574 | 416 157 | 468 | 336 132 | 541 | 376 166 | 362 | 238 124 |
| 9:00 | 330 | 215 115 | 450 | 271 179 | 393 | 246 147 | 395 | 242 157 | 360 | 218 142 | 454 | 267 187 | 496 | 302 194 |
| 10:00 | 533 | 310 223 | 479 | 256 224 | 408 | 229 179 | 428 | 245 183 | 371 | 212 160 | 471 | 258 173 | 657 | 388 269 |
| 11:00 | 528 | 295 233 | 523 | 279 243 | 513 | 267 246 | 463 | 248 215 | 454 | 242 212 | 541 | 296 245 | 734 | 403 331 |
| 12:00 | 579 | 297 282 | 567 | 293 274 | 504 | 254 250 | 503 | 254 249 | 505 | 258 246 | 596 | 295 301 | 668 | 348 320 |
| 13:00 | 527 | 265 262 | 561 | 284 278 | 511 | 257 255 | 503 | 259 244 | 491 | 250 241 | 589 | 302 287 | 593 | 300 293 |
| 14:00 | 477 | 230 247 | 594 | 275 319 | 537 | 255 283 | 559 | 271 288 | 508 | 239 269 | 613 | 286 327 | 548 | 264 284 |
| 15:00 | 515 | 251 264 | 718 | 315 404 | 764 | 319 445 | 775 | 315 459 | 671 | 306 365 | 766 | 333 433 | 539 | 250 289 |
| 16:00 | 495 | 237 258 | 845 | 337 508 | 883 | 340 543 | 858 | 351 507 | 756 | 310 446 | 860 | 359 500 | 586 | 293 290 |
| 17:00 | 477 | 222 255 | 857 | 338 519 | 895 | 354 541 | 929 | 366 563 | 773 | 316 457 | 896 | 376 520 | 585 | 295 290 |
| 18:00 | 383 | 173 210 | 597 | 260 337 | 610 | 268 341 | 698 | 308 390 | 571 | 253 318 | 677 | 321 356 | 539 | 266 274 |
| 19:00 | 283 | 136 149 | 394 | 149 245 | 394 | 164 230 | 435 | 158 277 | 401 | 176 226 | 450 | 196 253 | 368 | 182 186 |
| 20:00 | 231 | 105 126 | 298 | 105 193 | 315 | 117 199 | 336 | 133 204 | 311 | 122 188 | 347 | 145 202 | 270 | 119 151 |
| 21:00 | 156 | 70 86 | 214 | 79 135 | 265 | 83 183 | 249 | 99 149 | 231 | 88 142 | 314 | 114 201 | 248 | 102 146 |
| 22:00 | 106 | 50 56 | 107 | 41 66 | 144 | 48 96 | 136 | 57 79 | 162 | 66 96 | 213 | 90 123 | 199 | 83 116 |
| 23:00 | 57 | 28 29 | 65 | 25 40 | 69 | 22 47 | 77 | 28 49 | 90 | 35 56 | 153 | 59 94 | 158 | 65 93 |
| MADW | 6,453 | 3,341 3,112 | 9,255 | 4,804 4,450 | 9,404 | 4,892 4,511 | 9,457 | 4,946 4,511 | 8,416 | 4,578 4,038 | 9,785 | 5,059 4,726 | 8,151 | 4,237 3,914 |
| NDAYS | 4 | 4 4 | 4 | 4 4 | 4 | 4 4 | 3 | 3 3 | 5 | 5 5 | 5 | 5 5 | 5 | 5 5 |

Wisconsin Department of Transportation

Monthly Volume Calendar

Site Names: 130263, , SW
 County: Dane
 Funct. Class: R Minor Arterial - Other
 Location: CTH BB - EAST OF I-39-90-94

Num Days: 26
 MADT: 9,246
 MAWDT: 9,651
 MAWET: 7,774

February 2009

| | Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---------|--------|--------|---------|-----------|----------|--------|----------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Road | 7,220 | 9,377 | - | 9,515 | 9,853 | 10,594 | 8,665 |
| Neg DIR | 3,746 | 4,894 | - | 4,941 | 5,097 | 5,505 | 4,527 |
| Pos DIR | 3,474 | 4,483 | - | 4,574 | 4,756 | 5,089 | 4,138 |
| | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | 7,160 | 9,574 | 9,779 | 9,891 | 10,278 | 11,111 | 9,099 |
| | 3,674 | 4,996 | 5,062 | 5,149 | 5,356 | 5,792 | 4,736 |
| | 3,486 | 4,578 | 4,717 | 4,742 | 4,922 | 5,319 | 4,363 |
| | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| | 7,245 | 9,430 | 9,683 | 9,504 | 9,755 | 10,557 | 6,968 |
| | 3,723 | 4,871 | 5,054 | 4,914 | 5,023 | 5,427 | 3,616 |
| | 3,522 | 4,559 | 4,629 | 4,590 | 4,732 | 5,130 | 3,352 |
| | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| | - | 9,433 | 9,542 | 10,078 | 9,059 | 10,009 | 8,626 |
| | - | 4,857 | 4,947 | 5,224 | 4,677 | 5,168 | 4,454 |
| | - | 4,576 | 4,595 | 4,854 | 4,382 | 4,841 | 4,172 |
| MADW | 7,208 | 9,454 | 9,668 | 9,747 | 9,736 | 10,568 | 8,340 |
| STD | 44 | 84 | 119 | 285 | 505 | 450 | 939 |
| DAF | 1.28 | 0.98 | 0.96 | 0.95 | 0.95 | 0.87 | 1.11 |

Wisconsin Department of Transportation Monthly Hourly Day of Week Summary for February 2009

Site Names: 130263, , SW
 County: Dane
 Funct. Class: R Minor Arterial - Other
 Location: CTH BB - EAST OF I-39-90-94

Seasonal Factor Group: 4
 Daily Factor Group: 4
 Axle Factor Group: 2
 Growth Factor Group: 1

| | Sunday | | Monday | | Tuesday | | Wednesday | | Thursday | | Friday | | Saturday | | | | | | | | | |
|-------|--------|---------|---------|-------|---------|---------|-----------|---------|----------|-------|---------|---------|----------|---------|---------|--------|-------|-------|-------|-------|-------|---|
| | Road | Neg DIR | Pos DIR | Road | Neg DIR | Pos DIR | Road | Neg DIR | Pos DIR | Road | Neg DIR | Pos DIR | Road | Neg DIR | Pos DIR | | | | | | | |
| 0:00 | 101 | 41 | 60 | 28 | 14 | 14 | 28 | 19 | 30 | 11 | 18 | 48 | 30 | 91 | 35 | 57 | | | | | | |
| 1:00 | 57 | 21 | 36 | 13 | 7 | 6 | 20 | 14 | 36 | 16 | 20 | 25 | 8 | 17 | 19 | 28 | 35 | | | | | |
| 2:00 | 54 | 21 | 33 | 13 | 4 | 9 | 17 | 8 | 14 | 4 | 10 | 21 | 7 | 14 | 38 | 11 | 27 | | | | | |
| 3:00 | 31 | 12 | 19 | 11 | 7 | 4 | 16 | 8 | 7 | 16 | 9 | 7 | 20 | 11 | 9 | 25 | 14 | | | | | |
| 4:00 | 21 | 12 | 9 | 36 | 27 | 9 | 35 | 28 | 7 | 36 | 26 | 10 | 34 | 25 | 9 | 26 | 15 | 11 | | | | |
| 5:00 | 32 | 23 | 9 | 135 | 110 | 25 | 138 | 114 | 24 | 141 | 116 | 26 | 124 | 102 | 23 | 49 | 35 | 14 | | | | |
| 6:00 | 64 | 47 | 17 | 342 | 264 | 78 | 364 | 274 | 90 | 357 | 281 | 76 | 358 | 275 | 83 | 327 | 250 | 77 | 117 | 82 | 36 | |
| 7:00 | 168 | 121 | 47 | 909 | 732 | 177 | 944 | 765 | 179 | 950 | 765 | 186 | 930 | 750 | 180 | 852 | 678 | 174 | 222 | 146 | 76 | |
| 8:00 | 318 | 207 | 112 | 567 | 404 | 163 | 562 | 392 | 169 | 565 | 392 | 173 | 597 | 416 | 181 | 590 | 405 | 185 | 374 | 245 | 129 | |
| 9:00 | 397 | 252 | 145 | 435 | 259 | 176 | 494 | 265 | 169 | 428 | 264 | 164 | 404 | 239 | 165 | 477 | 291 | 186 | 512 | 311 | 202 | |
| 10:00 | 600 | 358 | 242 | 441 | 242 | 199 | 430 | 245 | 184 | 417 | 234 | 183 | 446 | 252 | 194 | 482 | 268 | 214 | 620 | 355 | 265 | |
| 11:00 | 585 | 315 | 270 | 479 | 255 | 224 | 518 | 268 | 250 | 522 | 275 | 248 | 546 | 273 | 273 | 574 | 302 | 272 | 702 | 388 | 315 | |
| 12:00 | 636 | 332 | 304 | 553 | 275 | 274 | 537 | 273 | 264 | 518 | 272 | 247 | 532 | 271 | 261 | 613 | 309 | 304 | 654 | 348 | 307 | |
| 13:00 | 567 | 284 | 282 | 552 | 279 | 273 | 527 | 251 | 276 | 509 | 251 | 258 | 538 | 255 | 283 | 600 | 284 | 316 | 563 | 293 | 270 | |
| 14:00 | 543 | 262 | 280 | 569 | 278 | 292 | 583 | 285 | 298 | 546 | 263 | 283 | 548 | 266 | 282 | 622 | 300 | 322 | 549 | 265 | 284 | |
| 15:00 | 600 | 279 | 321 | 762 | 307 | 454 | 821 | 333 | 488 | 814 | 328 | 486 | 797 | 327 | 470 | 891 | 379 | 512 | 551 | 250 | 301 | |
| 16:00 | 596 | 281 | 315 | 864 | 355 | 529 | 910 | 357 | 553 | 894 | 344 | 550 | 886 | 336 | 550 | 972 | 408 | 564 | 608 | 319 | 289 | |
| 17:00 | 541 | 242 | 298 | 895 | 361 | 534 | 927 | 392 | 534 | 903 | 379 | 524 | 930 | 390 | 540 | 1,018 | 458 | 560 | 602 | 299 | 303 | |
| 18:00 | 406 | 186 | 220 | 667 | 308 | 359 | 639 | 297 | 332 | 710 | 531 | 379 | 677 | 323 | 354 | 727 | 332 | 395 | 570 | 278 | 292 | |
| 19:00 | 312 | 140 | 172 | 457 | 181 | 276 | 436 | 176 | 260 | 457 | 183 | 274 | 441 | 190 | 251 | 496 | 212 | 285 | 444 | 219 | 225 | |
| 20:00 | 207 | 95 | 114 | 550 | 121 | 230 | 332 | 124 | 208 | 387 | 146 | 241 | 346 | 120 | 226 | 381 | 152 | 229 | 326 | 145 | 181 | |
| 21:00 | 220 | 117 | 103 | 219 | 81 | 138 | 262 | 79 | 183 | 269 | 87 | 182 | 275 | 102 | 174 | 310 | 121 | 189 | 251 | 104 | 146 | |
| 22:00 | 94 | 45 | 48 | 106 | 35 | 72 | 129 | 47 | 82 | 147 | 54 | 93 | 147 | 55 | 92 | 224 | 94 | 130 | 216 | 90 | 127 | |
| 23:00 | 58 | 22 | 37 | 54 | 18 | 37 | 71 | 23 | 48 | 82 | 28 | 55 | 77 | 28 | 49 | 138 | 59 | 79 | 178 | 72 | 106 | |
| MADW | 7,208 | 3,714 | 3,494 | 9,454 | 4,905 | 4,549 | 9,668 | 5,021 | 4,647 | 9,747 | 5,057 | 4,690 | 9,736 | 5,038 | 4,698 | 10,568 | 5,473 | 5,095 | 8,340 | 4,333 | 4,006 | |
| NDAYS | 3 | 3 | 3 | 4 | 4 | 4 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |

Wisconsin Department of Transportation

Monthly Volume Calendar

Site Names: 130263, , SW
 County: Dane
 Funct. Class: R Minor Arterial - Other
 Location: CTH BB - EAST OF I-39-90-94

Num Days: 31
 MADT: 9,511
 MAWDT: 9,966
 MAWET: 7,860

March 2009

| | Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---------|--------|--------|---------|-----------|----------|--------|----------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Road | 6,927 | 9,859 | 9,538 | 10,049 | 9,960 | 11,009 | 8,297 |
| Neg DIR | 3,623 | 5,090 | 4,951 | 5,210 | 5,161 | 5,714 | 4,286 |
| Pos DIR | 3,304 | 4,769 | 4,587 | 4,839 | 4,799 | 5,295 | 4,011 |
| | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | 6,286 | 9,914 | 9,767 | 10,073 | 10,280 | 11,252 | 9,072 |
| | 3,236 | 5,149 | 5,035 | 5,186 | 5,309 | 5,784 | 4,717 |
| | 3,050 | 4,765 | 4,732 | 4,887 | 4,971 | 5,468 | 4,355 |
| | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| | 7,735 | 10,606 | 10,828 | 10,462 | 10,493 | 11,021 | 8,956 |
| | 4,063 | 5,534 | 5,612 | 5,378 | 5,432 | 5,662 | 4,637 |
| | 3,672 | 5,072 | 5,216 | 5,084 | 5,061 | 5,359 | 4,319 |
| | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| | 7,555 | 9,097 | 8,924 | 9,527 | 9,824 | 10,673 | 8,470 |
| | 3,896 | 4,662 | 4,625 | 4,883 | 5,045 | 5,452 | 4,415 |
| | 3,659 | 4,435 | 4,299 | 4,644 | 4,779 | 5,221 | 4,055 |
| | 29 | 30 | 31 | | | | |
| | 6,604 | 10,047 | 9,911 | | | | |
| | 3,418 | 5,208 | 5,162 | | | | |
| | 3,186 | 4,839 | 4,749 | | | | |
| MADW | 7,021 | 9,905 | 9,794 | 10,028 | 10,139 | 10,989 | 8,699 |
| STD | 616 | 540 | 690 | 384 | 304 | 238 | 374 |
| DAF | 1.35 | 0.96 | 0.97 | 0.95 | 0.94 | 0.87 | 1.09 |

Wisconsin Department of Transportation

Monthly Hourly Day of Week Summary for March 2009

Site Names: 130263, , SW
 County: Dane
 Funct. Class: R Minor Arterial - Other
 Location: CTH BB - EAST OF I-39-90-94

Seasonal Factor Group: 4
 Daily Factor Group: 4
 Axle Factor Group: 2
 Growth Factor Group: 1

| | Sunday | | Monday | | Tuesday | | Wednesday | | Thursday | | Friday | | Saturday | |
|-------|--------|-------------------|--------|-------------------|---------|-------------------|-----------|-------------------|----------|-------------------|--------|-------------------|----------|-------------------|
| | Road | Neg DIR Pos DIR | Road | Neg DIR Pos DIR | Road | Neg DIR Pos DIR | Road | Neg DIR Pos DIR | Road | Neg DIR Pos DIR | Road | Neg DIR Pos DIR | Road | Neg DIR Pos DIR |
| 0:00 | 71 | 26 45 | 20 | 9 11 | 12 | 8 21 | 25 | 10 15 | 33 | 13 20 | 33 | 13 20 | 63 | 22 42 |
| 1:00 | 50 | 19 31 | 5 | 5 9 | 11 | 8 19 | 25 | 9 16 | 20 | 7 13 | 23 | 7 16 | 51 | 18 32 |
| 2:00 | 35 | 18 18 | 14 | 8 6 | 8 | 16 9 | 17 | 8 8 | 14 | 8 6 | 19 | 8 11 | 32 | 15 17 |
| 3:00 | 20 | 10 11 | 35 | 28 7 | 34 | 26 8 | 34 | 23 11 | 34 | 24 10 | 30 | 21 9 | 24 | 12 11 |
| 4:00 | 29 | 20 9 | 113 | 90 24 | 118 | 97 21 | 100 | 80 20 | 108 | 87 21 | 102 | 80 22 | 42 | 29 13 |
| 5:00 | 57 | 39 17 | 300 | 236 64 | 304 | 236 68 | 296 | 231 65 | 291 | 225 66 | 270 | 207 63 | 76 | 55 23 |
| 6:00 | 134 | 94 41 | 751 | 601 150 | 774 | 618 153 | 741 | 587 154 | 724 | 570 153 | 702 | 546 156 | 186 | 122 64 |
| 7:00 | 269 | 165 104 | 665 | 471 194 | 670 | 486 184 | 687 | 487 200 | 681 | 499 182 | 700 | 502 199 | 359 | 232 127 |
| 8:00 | 352 | 222 130 | 465 | 294 171 | 465 | 292 173 | 484 | 311 173 | 478 | 301 177 | 511 | 311 200 | 484 | 301 183 |
| 9:00 | 550 | 338 212 | 466 | 264 202 | 436 | 248 188 | 444 | 259 185 | 471 | 266 205 | 548 | 307 241 | 632 | 359 274 |
| 10:00 | 566 | 307 259 | 509 | 272 237 | 494 | 253 241 | 526 | 280 247 | 543 | 282 261 | 619 | 317 302 | 724 | 392 332 |
| 11:00 | 637 | 339 299 | 548 | 280 268 | 569 | 290 275 | 568 | 293 275 | 559 | 276 284 | 635 | 312 323 | 670 | 352 319 |
| 12:00 | 596 | 305 292 | 591 | 304 287 | 544 | 259 285 | 554 | 276 278 | 559 | 276 284 | 635 | 312 323 | 612 | 299 313 |
| 13:00 | 527 | 256 271 | 605 | 290 315 | 575 | 279 296 | 609 | 305 305 | 590 | 285 305 | 661 | 326 335 | 597 | 289 308 |
| 14:00 | 550 | 273 275 | 750 | 317 433 | 782 | 328 454 | 755 | 309 444 | 756 | 324 432 | 816 | 352 463 | 597 | 289 308 |
| 15:00 | 554 | 266 288 | 883 | 353 530 | 883 | 360 524 | 878 | 350 528 | 916 | 378 538 | 954 | 392 563 | 635 | 313 322 |
| 16:00 | 546 | 267 278 | 906 | 364 542 | 931 | 381 550 | 945 | 386 559 | 977 | 400 576 | 963 | 414 549 | 624 | 321 303 |
| 17:00 | 444 | 209 235 | 794 | 366 428 | 721 | 320 402 | 770 | 351 419 | 797 | 368 429 | 818 | 391 428 | 590 | 298 292 |
| 18:00 | 368 | 172 197 | 525 | 218 308 | 499 | 229 271 | 560 | 233 327 | 528 | 219 310 | 602 | 271 331 | 460 | 229 231 |
| 19:00 | 274 | 126 149 | 423 | 159 264 | 378 | 145 233 | 436 | 166 270 | 427 | 171 256 | 432 | 185 248 | 330 | 157 174 |
| 20:00 | 196 | 84 112 | 252 | 98 154 | 275 | 102 173 | 276 | 105 172 | 306 | 121 185 | 346 | 136 210 | 283 | 119 164 |
| 21:00 | 106 | 50 55 | 157 | 58 98 | 164 | 61 104 | 163 | 62 101 | 189 | 75 114 | 261 | 102 159 | 249 | 105 145 |
| 22:00 | 55 | 25 30 | 76 | 29 47 | 77 | 26 51 | 91 | 33 59 | 103 | 37 66 | 184 | 73 111 | 173 | 67 106 |
| 23:00 | 34 | 15 19 | 41 | 14 27 | 43 | 15 28 | 49 | 14 35 | 54 | 18 36 | 106 | 40 66 | 116 | 47 69 |
| MADW | 7,021 | 3,647 3,374 | 9,903 | 5,129 4,776 | 9,794 | 5,077 4,717 | 10,028 | 5,164 4,864 | 10,139 | 5,237 4,905 | 10,989 | 5,633 5,336 | 8,699 | 4,514 4,185 |
| NDAYS | 5 | 5 5 | 5 | 5 5 | 5 | 5 5 | 4 | 4 4 | 4 | 4 4 | 4 | 4 4 | 4 | 4 4 |

Wisconsin Department of Transportation

Monthly Volume Calendar

Site Names: 130263, , SW
 County: Dane
 Funct. Class: R Minor Arterial - Other
 Location: CTH BB - EAST OF I-39-90-94

Num Days: 30
 MADT: 10,092
 MAWDT: 10,555
 MAWET: 8,229

April 2009

| | Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---------|--------|--------|---------|-----------|----------|--------|----------|
| | | | | 1 | 2 | 3 | 4 |
| Road | | | | 10,594 | 10,380 | 11,826 | 8,971 |
| Neg DIR | | | | 5,486 | 5,441 | 6,077 | 4,605 |
| Pos DIR | | | | 5,108 | 4,939 | 5,749 | 4,366 |
| | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| | 6,137 | 9,781 | 10,021 | 10,560 | 10,627 | 11,709 | 9,492 |
| | 3,142 | 5,026 | 5,155 | 5,451 | 5,500 | 6,012 | 4,941 |
| | 2,995 | 4,755 | 4,866 | 5,109 | 5,127 | 5,697 | 4,551 |
| | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| | 7,948 | 9,350 | 10,690 | 11,193 | 11,368 | 11,948 | 9,664 |
| | 4,143 | 4,812 | 5,456 | 5,821 | 5,878 | 6,162 | 5,001 |
| | 3,805 | 4,538 | 5,234 | 5,372 | 5,490 | 5,786 | 4,663 |
| | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| | 7,500 | 10,426 | 10,174 | 11,042 | 11,170 | 12,377 | 8,650 |
| | 3,910 | 5,433 | 5,266 | 5,682 | 5,773 | 6,349 | 4,445 |
| | 3,590 | 4,993 | 4,908 | 5,360 | 5,397 | 6,028 | 4,205 |
| | 26 | 27 | 28 | 29 | 30 | | |
| | 7,466 | 10,491 | 10,809 | 11,125 | 10,871 | | |
| | 3,859 | 5,518 | 5,600 | 5,751 | 5,663 | | |
| | 3,607 | 4,973 | 5,209 | 5,374 | 5,208 | | |
| MADW | 7,263 | 10,012 | 10,424 | 10,903 | 10,883 | 11,965 | 9,194 |
| STD | 782 | 545 | 385 | 302 | 399 | 291 | 467 |
| DAF | 1.39 | 1.01 | 0.97 | 0.93 | 0.93 | 0.84 | 1.10 |

Wisconsin Department of Transportation

Monthly Hourly Day of Week Summary for April 2009

Site Names: 130263, , SW
 County: Dane
 Funct. Class: R Minor Arterial - Other
 Location: CTH BB - EAST OF I-39-90-94
 Seasonal Factor Group: 4
 Daily Factor Group: 4
 Axle Factor Group: 2
 Growth Factor Group: 1

| | Sunday | | | Monday | | | Tuesday | | | Wednesday | | | Thursday | | | Friday | | | Saturday | | | |
|-------|--------|---------|---------|--------|---------|---------|---------|---------|---------|-----------|---------|---------|----------|---------|---------|--------|---------|---------|----------|---------|---------|---|
| | Road | Neg DIR | Pos DIR | Road | Neg DIR | Pos DIR | Road | Neg DIR | Pos DIR | Road | Neg DIR | Pos DIR | Road | Neg DIR | Pos DIR | Road | Neg DIR | Pos DIR | Road | Neg DIR | Pos DIR | |
| 0:00 | 53 | 21 | 32 | 21 | 10 | 11 | 14 | 20 | 8 | 12 | 27 | 10 | 17 | 32 | 12 | 20 | 57 | 25 | 32 | | | |
| 1:00 | 47 | 19 | 29 | 11 | 5 | 7 | 10 | 18 | 6 | 12 | 22 | 7 | 15 | 26 | 10 | 16 | 50 | 21 | 29 | | | |
| 2:00 | 30 | 16 | 14 | 5 | 5 | 5 | 6 | 19 | 11 | 8 | 20 | 11 | 9 | 18 | 10 | 9 | 32 | 14 | 18 | | | |
| 3:00 | 16 | 9 | 7 | 39 | 32 | 7 | 40 | 37 | 29 | 8 | 37 | 28 | 10 | 32 | 22 | 10 | 25 | 16 | 9 | | | |
| 4:00 | 37 | 26 | 11 | 127 | 103 | 25 | 138 | 112 | 104 | 24 | 132 | 109 | 25 | 125 | 98 | 26 | 50 | 33 | 17 | | | |
| 5:00 | 71 | 48 | 23 | 362 | 279 | 83 | 377 | 286 | 91 | 389 | 296 | 93 | 378 | 284 | 92 | 348 | 262 | 86 | 119 | 83 | 37 | |
| 6:00 | 206 | 145 | 60 | 861 | 693 | 168 | 964 | 776 | 765 | 197 | 968 | 773 | 195 | 951 | 755 | 197 | 243 | 155 | 88 | | | |
| 7:00 | 329 | 206 | 123 | 578 | 386 | 192 | 613 | 418 | 195 | 607 | 412 | 195 | 616 | 423 | 194 | 622 | 405 | 217 | 437 | 275 | 162 | |
| 8:00 | 430 | 255 | 175 | 474 | 286 | 188 | 461 | 284 | 178 | 486 | 292 | 194 | 492 | 288 | 204 | 557 | 320 | 237 | 611 | 355 | 256 | |
| 9:00 | 603 | 354 | 249 | 479 | 268 | 211 | 455 | 248 | 207 | 520 | 285 | 236 | 495 | 271 | 224 | 579 | 328 | 251 | 722 | 394 | 328 | |
| 10:00 | 622 | 301 | 320 | 566 | 292 | 274 | 545 | 270 | 275 | 610 | 298 | 311 | 566 | 303 | 263 | 705 | 353 | 352 | 776 | 424 | 352 | |
| 11:00 | 660 | 344 | 316 | 593 | 311 | 282 | 590 | 308 | 308 | 655 | 346 | 309 | 589 | 292 | 297 | 776 | 387 | 389 | 727 | 356 | 371 | |
| 12:00 | 578 | 285 | 293 | 637 | 328 | 308 | 637 | 328 | 308 | 614 | 300 | 314 | 600 | 285 | 314 | 703 | 335 | 371 | 676 | 354 | 323 | |
| 13:00 | 536 | 264 | 272 | 620 | 297 | 324 | 624 | 300 | 325 | 660 | 313 | 347 | 663 | 325 | 338 | 747 | 359 | 388 | 631 | 308 | 323 | |
| 14:00 | 547 | 272 | 276 | 826 | 346 | 346 | 894 | 364 | 364 | 877 | 360 | 317 | 911 | 370 | 541 | 1,006 | 406 | 600 | 625 | 302 | 323 | |
| 15:00 | 546 | 259 | 287 | 959 | 380 | 359 | 974 | 384 | 384 | 1,008 | 411 | 597 | 1,011 | 412 | 599 | 1,034 | 440 | 594 | 662 | 328 | 334 | |
| 16:00 | 529 | 269 | 260 | 920 | 359 | 359 | 951 | 382 | 382 | 969 | 419 | 585 | 1,027 | 433 | 594 | 996 | 442 | 554 | 629 | 300 | 329 | |
| 17:00 | 427 | 212 | 214 | 674 | 308 | 366 | 725 | 335 | 390 | 789 | 376 | 412 | 769 | 374 | 395 | 808 | 395 | 413 | 560 | 288 | 275 | |
| 18:00 | 361 | 169 | 192 | 465 | 193 | 272 | 495 | 209 | 209 | 528 | 219 | 309 | 539 | 237 | 302 | 585 | 257 | 327 | 455 | 228 | 228 | |
| 19:00 | 283 | 132 | 151 | 345 | 126 | 219 | 413 | 151 | 151 | 263 | 172 | 256 | 430 | 176 | 254 | 482 | 210 | 272 | 349 | 162 | 187 | |
| 20:00 | 171 | 79 | 92 | 219 | 92 | 127 | 262 | 99 | 163 | 280 | 110 | 170 | 289 | 121 | 168 | 327 | 145 | 182 | 284 | 135 | 149 | |
| 21:00 | 100 | 44 | 56 | 123 | 57 | 66 | 134 | 51 | 84 | 150 | 62 | 88 | 168 | 69 | 99 | 252 | 102 | 150 | 224 | 93 | 131 | |
| 22:00 | 56 | 24 | 31 | 67 | 25 | 42 | 75 | 28 | 47 | 76 | 30 | 46 | 91 | 34 | 57 | 166 | 63 | 103 | 159 | 65 | 94 | |
| 23:00 | 31 | 15 | 17 | 35 | 15 | 20 | 38 | 13 | 25 | 41 | 14 | 14 | 27 | 44 | 16 | 29 | 95 | 39 | 94 | 39 | 55 | |
| MADWY | 7,263 | 3,764 | 3,499 | 10,012 | 5,197 | 4,815 | 10,424 | 5,369 | 5,054 | 10,903 | 5,638 | 5,265 | 10,883 | 5,651 | 5,232 | 11,965 | 6,150 | 5,815 | 9,194 | 4,748 | 4,446 | |
| NDAYS | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |

Wisconsin Department of Transportation

Monthly Volume Calendar

Site Names: 130263, , SW
 County: Dane
 Funct. Class: R Minor Arterial - Other
 Location: CTH BB - EAST OF I-39-90-94

Num Days: 31
 MADT: 10,881
 MAWDT: 11,211
 MAWET: 9,432

May 2009

| | Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---------|--------|--------|---------|-----------|----------|--------|----------|
| | | | | | | 1 | 2 |
| Road | | | | | | 12,187 | 10,335 |
| Neg DIR | | | | | | 6,205 | 5,337 |
| Pos DIR | | | | | | 5,982 | 4,998 |
| | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| | 8,715 | 11,274 | 11,118 | 11,240 | 11,913 | 12,781 | 10,374 |
| | 4,506 | 5,854 | 5,745 | 5,795 | 6,105 | 6,507 | 5,355 |
| | 4,209 | 5,420 | 5,373 | 5,445 | 5,808 | 6,274 | 5,019 |
| | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | 9,259 | 11,048 | 11,186 | 10,711 | 11,528 | 12,198 | 10,310 |
| | 4,810 | 5,724 | 5,780 | 5,544 | 5,974 | 6,280 | 5,377 |
| | 4,449 | 5,324 | 5,406 | 5,167 | 5,554 | 5,918 | 4,933 |
| | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| | 8,744 | 11,227 | 11,882 | 12,186 | 12,127 | 12,485 | 9,093 |
| | 4,524 | 5,887 | 6,175 | 6,275 | 6,347 | 6,473 | 4,722 |
| | 4,220 | 5,340 | 5,707 | 5,911 | 5,780 | 6,012 | 4,371 |
| | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| | 8,403 | 8,145 | 11,095 | 10,896 | 11,794 | 12,639 | 9,907 |
| | 4,383 | 4,245 | 5,693 | 5,576 | 6,008 | 6,462 | 5,102 |
| | 4,020 | 3,900 | 5,402 | 5,320 | 5,786 | 6,177 | 4,805 |
| | 31 | | | | | | |
| | 9,183 | | | | | | |
| | 4,706 | | | | | | |
| | 4,477 | | | | | | |
| MADW | 8,861 | 10,424 | 11,320 | 11,258 | 11,841 | 12,458 | 10,004 |
| STD | 356 | 1,522 | 376 | 656 | 250 | 264 | 543 |
| DAF | 1.23 | 1.04 | 0.96 | 0.97 | 0.92 | 0.87 | 1.09 |

Wisconsin Department of Transportation Monthly Hourly Day of Week Summary for May 2009

Site Names: 130263, SW:
 County: Dane
 Funct. Class: R-Minor Arterial - Other
 Location: CIH BB - EAST OF I-39-90-94

Seasonal Factor Group: 4
 Daily Factor Group: 4
 Axle Factor Group: 2
 Growth Factor Group: 1

| | Sunday | | Monday | | Tuesday | | Wednesday | | Thursday | | Friday | | Saturday | | | | | |
|-------|--------|-------------------|--------|-------------------|---------|-------------------|-----------|-------------------|----------|-------------------|--------|-------------------|----------|-------------------|-------|--------|-------|-------|
| | Road | Neg DIR / Pos DIR | Road | Neg DIR / Pos DIR | Road | Neg DIR / Pos DIR | Road | Neg DIR / Pos DIR | Road | Neg DIR / Pos DIR | Road | Neg DIR / Pos DIR | Road | Neg DIR / Pos DIR | | | | |
| 0:00 | 64 | 28 | 36 | 23 | 13 | 13 | 18 | 10 | 18 | 27 | 12 | 15 | 31 | 13 | 18 | 52 | 22 | 29 |
| 1:00 | 52 | 19 | 33 | 16 | 16 | 7 | 18 | 5 | 14 | 19 | 6 | 14 | 22 | 7 | 15 | 47 | 17 | 30 |
| 2:00 | 30 | 14 | 16 | 14 | 10 | 7 | 20 | 13 | 7 | 20 | 12 | 9 | 21 | 9 | 12 | 26 | 10 | 16 |
| 3:00 | 24 | 12 | 12 | 32 | 25 | 7 | 33 | 26 | 7 | 36 | 27 | 9 | 34 | 25 | 9 | 22 | 15 | 7 |
| 4:00 | 43 | 31 | 13 | 123 | 126 | 27 | 138 | 113 | 25 | 144 | 120 | 24 | 138 | 109 | 29 | 54 | 38 | 16 |
| 5:00 | 90 | 60 | 30 | 327 | 429 | 81 | 429 | 324 | 105 | 423 | 313 | 100 | 394 | 301 | 94 | 126 | 87 | 38 |
| 6:00 | 214 | 144 | 70 | 792 | 1,010 | 172 | 1,010 | 806 | 204 | 1,029 | 828 | 202 | 1,011 | 990 | 211 | 279 | 182 | 97 |
| 7:00 | 381 | 230 | 151 | 612 | 666 | 190 | 666 | 447 | 637 | 430 | 678 | 444 | 663 | 427 | 236 | 482 | 301 | 180 |
| 8:00 | 504 | 295 | 209 | 566 | 503 | 220 | 503 | 281 | 222 | 528 | 305 | 224 | 528 | 607 | 262 | 640 | 367 | 273 |
| 9:00 | 698 | 402 | 297 | 511 | 282 | 229 | 513 | 286 | 227 | 528 | 291 | 237 | 564 | 314 | 250 | 755 | 420 | 355 |
| 10:00 | 744 | 376 | 368 | 617 | 315 | 302 | 637 | 329 | 308 | 622 | 319 | 303 | 649 | 337 | 312 | 847 | 439 | 408 |
| 11:00 | 770 | 397 | 373 | 650 | 319 | 331 | 640 | 331 | 309 | 617 | 315 | 303 | 673 | 333 | 340 | 757 | 401 | 389 |
| 12:00 | 704 | 351 | 353 | 670 | 335 | 335 | 676 | 330 | 345 | 631 | 316 | 315 | 654 | 325 | 329 | 747 | 354 | 375 |
| 13:00 | 700 | 355 | 345 | 673 | 332 | 342 | 666 | 324 | 342 | 678 | 320 | 358 | 715 | 348 | 367 | 791 | 375 | 372 |
| 14:00 | 660 | 331 | 329 | 864 | 362 | 502 | 958 | 381 | 576 | 957 | 377 | 580 | 1,009 | 411 | 599 | 1,037 | 437 | 352 |
| 15:00 | 663 | 329 | 335 | 944 | 392 | 552 | 1,010 | 390 | 620 | 1,010 | 382 | 628 | 1,081 | 429 | 652 | 1,067 | 450 | 354 |
| 16:00 | 611 | 295 | 316 | 896 | 374 | 521 | 1,007 | 406 | 602 | 1,054 | 423 | 631 | 1,033 | 444 | 589 | 1,005 | 438 | 340 |
| 17:00 | 567 | 283 | 285 | 687 | 321 | 366 | 770 | 360 | 411 | 780 | 352 | 428 | 777 | 366 | 411 | 795 | 377 | 304 |
| 18:00 | 478 | 215 | 263 | 527 | 240 | 287 | 551 | 242 | 309 | 525 | 228 | 297 | 581 | 264 | 317 | 622 | 280 | 253 |
| 19:00 | 387 | 182 | 205 | 394 | 170 | 224 | 470 | 209 | 261 | 431 | 189 | 242 | 530 | 233 | 297 | 504 | 213 | 211 |
| 20:00 | 231 | 112 | 119 | 267 | 111 | 156 | 298 | 117 | 181 | 308 | 130 | 178 | 358 | 134 | 224 | 383 | 166 | 175 |
| 21:00 | 125 | 65 | 60 | 123 | 58 | 65 | 149 | 59 | 90 | 149 | 65 | 84 | 176 | 69 | 108 | 235 | 94 | 119 |
| 22:00 | 77 | 38 | 38 | 63 | 26 | 37 | 86 | 31 | 55 | 82 | 30 | 52 | 106 | 38 | 68 | 162 | 63 | 91 |
| 23:00 | 43 | 23 | 20 | 35 | 14 | 21 | 36 | 14 | 22 | 35 | 12 | 23 | 61 | 27 | 34 | 92 | 39 | 64 |
| MADW | 8,861 | 4,586 | 4,275 | 10,424 | 5,428 | 4,996 | 11,320 | 5,848 | 5,472 | 11,258 | 5,798 | 5,461 | 11,841 | 6,109 | 5,732 | 12,458 | 6,385 | 4,825 |
| NDAYS | 5 | 5 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 |

Wisconsin Department of Transportation

Monthly Volume Calendar

Site Names: 130263, SW
 County: Dane
 Funct. Class: R Minor Arterial - Other
 Location: CTH BB - EAST OF I-39-90-94

Num Days: 30
 MADT: 10,675
 MAWDT: 11,084
 MAWET: 9,187

June 2009

| | Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---------|--------|--------|---------|-----------|----------|--------|----------|
| | | 1 | 2 | 3 | 4 | 5 | 6 |
| Road | | 11,189 | 11,119 | 11,608 | 12,047 | 13,550 | 10,506 |
| Neg DIR | | 5,803 | 5,723 | 5,987 | 6,188 | 6,926 | 5,448 |
| Pos DIR | | 5,386 | 5,396 | 5,621 | 5,859 | 6,624 | 5,058 |
| | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| | 8,565 | 10,701 | 11,290 | 11,523 | 11,910 | 12,157 | 9,684 |
| | 4,478 | 5,537 | 5,877 | 5,977 | 6,102 | 6,189 | 5,009 |
| | 4,087 | 5,164 | 5,413 | 5,546 | 5,808 | 5,968 | 4,675 |
| | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| | 8,577 | 10,492 | 10,559 | 10,998 | 11,061 | 11,136 | 10,169 |
| | 4,407 | 5,390 | 5,469 | 5,652 | 5,666 | 5,692 | 5,200 |
| | 4,170 | 5,102 | 5,090 | 5,346 | 5,395 | 5,444 | 4,969 |
| | 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| | 8,563 | 10,309 | 10,648 | 11,152 | 11,084 | 11,231 | 8,898 |
| | 4,508 | 5,382 | 5,465 | 5,754 | 5,694 | 5,809 | 4,644 |
| | 4,055 | 4,927 | 5,183 | 5,398 | 5,390 | 5,422 | 4,254 |
| | 28 | 29 | 30 | | | | |
| | 8,530 | 10,453 | 10,692 | | | | |
| | 4,455 | 5,397 | 5,490 | | | | |
| | 4,075 | 5,056 | 5,202 | | | | |
| MADW | 8,559 | 10,629 | 10,862 | 11,320 | 11,526 | 12,019 | 9,814 |
| STD | 20 | 343 | 322 | 292 | 526 | 1,120 | 698 |
| DAF | 1.25 | 1.00 | 0.98 | 0.94 | 0.93 | 0.89 | 1.09 |

Wisconsin Department of Transportation

Monthly Hourly Day of Week Summary for June 2009

Site Names: 130263, SW
 County: Dane
 Funct. Class: R Minor Arterial - Other
 Location: CTH BB - EAST OF I-39-90-94

Seasonal Factor Group: 4
 Daily Factor Group: 4
 Axle Factor Group: 2
 Growth Factor Group: 1

| | Sunday | | | Monday | | | Tuesday | | | Wednesday | | | Thursday | | | Friday | | | Saturday | | |
|-------|--------|---------|---------|--------|---------|---------|---------|---------|---------|-----------|---------|---------|----------|---------|---------|--------|---------|---------|----------|---------|---------|
| | Road | Neg DIR | Pos DIR | Road | Neg DIR | Pos DIR | Road | Neg DIR | Pos DIR | Road | Neg DIR | Pos DIR | Road | Neg DIR | Pos DIR | Road | Neg DIR | Pos DIR | Road | Neg DIR | Pos DIR |
| 0:00 | 78 | 43 | 23 | 12 | 10 | 12 | 28 | 12 | 17 | 13 | 18 | 31 | 13 | 18 | 37 | 15 | 22 | 67 | 34 | 35 | |
| 1:00 | 46 | 21 | 26 | 6 | 11 | 18 | 20 | 7 | 13 | 25 | 8 | 17 | 25 | 9 | 17 | 25 | 9 | 17 | 50 | 20 | 30 |
| 2:00 | 24 | 13 | 11 | 16 | 4 | 17 | 12 | 6 | 20 | 13 | 8 | 18 | 10 | 8 | 25 | 13 | 12 | 35 | 16 | 19 | |
| 3:00 | 22 | 14 | 8 | 35 | 6 | 41 | 33 | 26 | 7 | 41 | 31 | 41 | 31 | 10 | 36 | 27 | 8 | 24 | 18 | 6 | |
| 4:00 | 41 | 50 | 11 | 144 | 25 | 158 | 128 | 30 | 147 | 126 | 21 | 148 | 123 | 25 | 136 | 109 | 27 | 62 | 42 | 21 | |
| 5:00 | 96 | 59 | 37 | 378 | 79 | 393 | 302 | 91 | 422 | 326 | 96 | 417 | 317 | 100 | 376 | 286 | 91 | 154 | 105 | 49 | |
| 6:00 | 201 | 136 | 65 | 798 | 167 | 819 | 642 | 177 | 871 | 681 | 190 | 829 | 645 | 184 | 730 | 557 | 173 | 288 | 187 | 101 | |
| 7:00 | 384 | 231 | 153 | 610 | 406 | 622 | 419 | 203 | 636 | 426 | 210 | 658 | 425 | 233 | 705 | 460 | 245 | 457 | 276 | 181 | |
| 8:00 | 467 | 274 | 195 | 544 | 323 | 222 | 510 | 305 | 204 | 542 | 328 | 215 | 572 | 329 | 243 | 640 | 374 | 266 | 671 | 379 | |
| 9:00 | 643 | 362 | 281 | 533 | 294 | 239 | 532 | 294 | 239 | 542 | 302 | 240 | 602 | 330 | 292 | 663 | 338 | 325 | 769 | 404 | |
| 10:00 | 661 | 347 | 315 | 636 | 338 | 298 | 638 | 327 | 311 | 635 | 327 | 308 | 670 | 349 | 320 | 729 | 380 | 349 | 755 | 393 | |
| 11:00 | 731 | 397 | 334 | 675 | 350 | 325 | 699 | 347 | 351 | 718 | 340 | 378 | 701 | 358 | 344 | 790 | 391 | 399 | 769 | 374 | |
| 12:00 | 645 | 326 | 319 | 660 | 329 | 330 | 636 | 328 | 309 | 668 | 346 | 322 | 658 | 334 | 325 | 758 | 374 | 385 | 715 | 381 | |
| 13:00 | 644 | 310 | 334 | 681 | 322 | 359 | 670 | 317 | 353 | 700 | 342 | 357 | 698 | 334 | 363 | 782 | 358 | 424 | 682 | 326 | |
| 14:00 | 635 | 314 | 321 | 821 | 342 | 480 | 789 | 342 | 447 | 868 | 347 | 521 | 879 | 372 | 507 | 921 | 399 | 523 | 646 | 324 | |
| 15:00 | 633 | 313 | 320 | 950 | 376 | 574 | 974 | 391 | 584 | 994 | 388 | 606 | 1,016 | 396 | 621 | 1,000 | 427 | 574 | 680 | 352 | |
| 16:00 | 606 | 303 | 304 | 916 | 352 | 564 | 994 | 385 | 609 | 1,023 | 421 | 602 | 988 | 410 | 578 | 990 | 437 | 553 | 617 | 312 | |
| 17:00 | 525 | 260 | 263 | 687 | 310 | 377 | 692 | 333 | 359 | 710 | 325 | 386 | 740 | 354 | 386 | 708 | 333 | 375 | 603 | 297 | |
| 18:00 | 461 | 230 | 231 | 499 | 221 | 277 | 541 | 236 | 305 | 592 | 281 | 312 | 572 | 250 | 322 | 561 | 256 | 306 | 492 | 231 | |
| 19:00 | 388 | 189 | 200 | 450 | 193 | 258 | 453 | 187 | 266 | 485 | 212 | 274 | 489 | 214 | 275 | 475 | 208 | 266 | 413 | 185 | |
| 20:00 | 374 | 142 | 131 | 276 | 115 | 160 | 331 | 133 | 197 | 336 | 135 | 202 | 369 | 147 | 221 | 376 | 165 | 211 | 341 | 159 | |
| 21:00 | 195 | 87 | 108 | 159 | 67 | 92 | 172 | 74 | 98 | 185 | 75 | 110 | 207 | 89 | 119 | 280 | 113 | 167 | 229 | 108 | |
| 22:00 | 111 | 45 | 69 | 77 | 37 | 41 | 92 | 38 | 54 | 98 | 44 | 54 | 122 | 54 | 68 | 170 | 81 | 89 | 176 | 89 | |
| 23:00 | 53 | 21 | 32 | 43 | 19 | 24 | 48 | 17 | 31 | 49 | 18 | 31 | 57 | 22 | 35 | 107 | 46 | 61 | 123 | 69 | |
| MADW | 8,559 | 4,462 | 4,097 | 10,629 | 5,502 | 5,127 | 10,862 | 5,603 | 5,257 | 11,320 | 5,843 | 5,478 | 11,526 | 5,913 | 5,613 | 12,019 | 6,154 | 5,865 | 9,814 | 5,073 | 4,739 |
| NDAYS | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |

Wisconsin Department of Transportation

Monthly Volume Calendar

Site Names: 130263, , SW
 County: Dane
 Funct. Class: R Minor Arterial - Other
 Location: CTH BB - EAST OF I-39-90-94 .

Num Days: 31
 MADT: 9,862
 MAWDT: 10,457
 MAWET: 8,227

July 2009

| | Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---------|--------|--------|---------|-----------|----------|--------|----------|
| | | | | 1 | 2 | 3 | 4 |
| Road | | | | 11,189 | 11,206 | 10,113 | 7,240 |
| Neg DIR | | | | 5,795 | 5,798 | 5,269 | 3,822 |
| Pos DIR | | | | 5,394 | 5,408 | 4,844 | 3,418 |
| | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| | 7,019 | 9,926 | 10,150 | 10,390 | 10,759 | 10,545 | 9,328 |
| | 3,600 | 5,149 | 5,237 | 5,370 | 5,606 | 5,496 | 4,794 |
| | 3,419 | 4,777 | 4,913 | 5,020 | 5,153 | 5,049 | 4,534 |
| | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| | 8,104 | 10,291 | 10,494 | 10,565 | 10,810 | 10,641 | 8,653 |
| | 4,251 | 5,312 | 5,448 | 5,479 | 5,683 | 5,550 | 4,526 |
| | 3,853 | 4,979 | 5,046 | 5,086 | 5,127 | 5,091 | 4,127 |
| | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| | 7,796 | 10,289 | 9,807 | 10,498 | 10,526 | 10,852 | 9,614 |
| | 4,091 | 5,329 | 5,086 | 5,496 | 5,428 | 5,651 | 5,059 |
| | 3,705 | 4,960 | 4,721 | 5,002 | 5,098 | 5,201 | 4,555 |
| | 26 | 27 | 28 | 29 | 30 | 31 | |
| | 8,063 | 9,852 | 10,248 | 11,117 | 10,759 | 11,618 | |
| | 4,234 | 5,130 | 5,342 | 5,779 | 5,617 | 6,049 | |
| | 3,829 | 4,722 | 4,906 | 5,338 | 5,142 | 5,569 | |
| MADW | 7,746 | 10,090 | 10,175 | 10,752 | 10,812 | 10,754 | 8,709 |
| STD | 503 | 233 | 285 | 372 | 246 | 553 | 1,059 |
| DAF | 1.27 | 0.98 | 0.97 | 0.92 | 0.91 | 0.92 | 1.13 |

Wisconsin Department of Transportation Monthly Hourly Day of Week Summary for July 2009

Site Names: 130263, , SW
 County: Dane
 Funct. Class: R Minor Arterial - Other
 Location: CTH BB - EAST OF I-39-90-94

Seasonal Factor Group: 4
 Daily Factor Group: 4
 Axle Factor Group: 2
 Growth Factor Group: 1

| | Sunday | | | Monday | | | Tuesday | | | Wednesday | | | Thursday | | | Friday | | | Saturday | | |
|-------|--------|---------|---------|--------|---------|---------|---------|---------|---------|-----------|---------|---------|----------|---------|---------|--------|---------|---------|----------|---------|---------|
| | Road | Neg DIR | Pos DIR | Road | Neg DIR | Pos DIR | Road | Neg DIR | Pos DIR | Road | Neg DIR | Pos DIR | Road | Neg DIR | Pos DIR | Road | Neg DIR | Pos DIR | Road | Neg DIR | Pos DIR |
| 0:00 | 71 | 30 | 41 | 22 | 9 | 13 | 22 | 11 | 11 | 33 | 12 | 21 | 31 | 12 | 19 | 36 | 12 | 24 | 56 | 24 | 33 |
| 1:00 | 44 | 17 | 27 | 16 | 6 | 9 | 21 | 9 | 12 | 28 | 9 | 19 | 24 | 9 | 15 | 27 | 8 | 18 | 39 | 13 | 26 |
| 2:00 | 29 | 10 | 16 | 16 | 10 | 6 | 18 | 11 | 7 | 24 | 15 | 9 | 19 | 12 | 7 | 23 | 11 | 12 | 22 | 8 | 14 |
| 3:00 | 21 | 10 | 10 | 37 | 28 | 10 | 34 | 27 | 8 | 34 | 25 | 10 | 39 | 30 | 9 | 34 | 26 | 8 | 22 | 12 | 10 |
| 4:00 | 42 | 31 | 11 | 141 | 117 | 24 | 151 | 127 | 24 | 141 | 114 | 28 | 144 | 114 | 50 | 117 | 94 | 23 | 45 | 31 | 14 |
| 5:00 | 91 | 58 | 33 | 377 | 300 | 77 | 370 | 295 | 75 | 385 | 300 | 85 | 380 | 296 | 84 | 539 | 248 | 90 | 135 | 94 | 40 |
| 6:00 | 193 | 130 | 63 | 642 | 494 | 148 | 684 | 532 | 152 | 703 | 543 | 160 | 673 | 517 | 156 | 564 | 417 | 147 | 228 | 148 | 80 |
| 7:00 | 344 | 210 | 134 | 567 | 371 | 197 | 593 | 390 | 203 | 586 | 388 | 198 | 605 | 391 | 214 | 573 | 357 | 216 | 396 | 252 | 144 |
| 8:00 | 439 | 263 | 176 | 573 | 340 | 232 | 521 | 307 | 214 | 544 | 329 | 215 | 553 | 337 | 216 | 591 | 350 | 241 | 539 | 321 | 218 |
| 9:00 | 610 | 362 | 248 | 584 | 328 | 256 | 545 | 311 | 234 | 575 | 321 | 254 | 571 | 310 | 262 | 645 | 353 | 292 | 624 | 342 | 283 |
| 10:00 | 609 | 322 | 287 | 635 | 325 | 310 | 627 | 318 | 309 | 655 | 329 | 324 | 667 | 348 | 319 | 725 | 390 | 355 | 701 | 372 | 329 |
| 11:00 | 631 | 348 | 283 | 674 | 337 | 337 | 658 | 326 | 312 | 669 | 337 | 331 | 674 | 349 | 325 | 713 | 365 | 348 | 670 | 354 | 316 |
| 12:00 | 592 | 297 | 295 | 640 | 330 | 311 | 604 | 308 | 296 | 655 | 343 | 312 | 626 | 320 | 307 | 740 | 378 | 362 | 608 | 310 | 298 |
| 13:00 | 598 | 313 | 284 | 635 | 300 | 335 | 634 | 308 | 326 | 650 | 319 | 331 | 681 | 328 | 353 | 722 | 345 | 377 | 565 | 273 | 290 |
| 14:00 | 569 | 287 | 282 | 730 | 323 | 408 | 730 | 312 | 418 | 760 | 329 | 431 | 768 | 348 | 420 | 746 | 341 | 403 | 575 | 280 | 296 |
| 15:00 | 572 | 289 | 284 | 901 | 357 | 544 | 904 | 374 | 530 | 928 | 380 | 547 | 947 | 392 | 555 | 919 | 412 | 508 | 623 | 332 | 291 |
| 16:00 | 513 | 249 | 264 | 873 | 358 | 516 | 909 | 379 | 531 | 961 | 413 | 547 | 977 | 424 | 553 | 858 | 387 | 470 | 550 | 287 | 262 |
| 17:00 | 502 | 238 | 264 | 629 | 298 | 337 | 636 | 291 | 348 | 709 | 326 | 383 | 682 | 338 | 344 | 671 | 330 | 341 | 556 | 280 | 276 |
| 18:00 | 437 | 203 | 234 | 471 | 213 | 258 | 472 | 206 | 266 | 543 | 251 | 292 | 541 | 239 | 302 | 481 | 233 | 248 | 469 | 235 | 233 |
| 19:00 | 363 | 169 | 194 | 398 | 170 | 228 | 450 | 194 | 256 | 483 | 226 | 257 | 492 | 217 | 275 | 420 | 192 | 228 | 397 | 207 | 190 |
| 20:00 | 242 | 110 | 132 | 259 | 111 | 149 | 308 | 121 | 186 | 355 | 139 | 215 | 347 | 144 | 203 | 334 | 148 | 186 | 314 | 150 | 164 |
| 21:00 | 123 | 52 | 73 | 148 | 68 | 81 | 164 | 69 | 95 | 173 | 74 | 98 | 198 | 80 | 118 | 225 | 101 | 124 | 260 | 94 | 166 |
| 22:00 | 71 | 33 | 44 | 82 | 29 | 53 | 94 | 38 | 56 | 111 | 44 | 67 | 111 | 43 | 68 | 149 | 61 | 87 | 200 | 81 | 119 |
| 23:00 | 42 | 16 | 26 | 42 | 18 | 24 | 48 | 17 | 31 | 51 | 18 | 33 | 62 | 29 | 33 | 101 | 43 | 59 | 122 | 51 | 71 |
| MADW | 7,746 | 4,044 | 3,702 | 10,090 | 5,230 | 4,860 | 10,175 | 5,278 | 4,897 | 10,752 | 5,384 | 5,168 | 10,812 | 5,626 | 5,186 | 10,754 | 5,603 | 5,151 | 8,709 | 4,550 | 4,159 |
| NDAYS | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |

Wisconsin Department of Transportation

Monthly Volume Calendar

Site Names: 130263, , SW
 County: Dane
 Funct. Class: R Minor Arterial - Other
 Location: CTH BB - EAST OF I-39-90-94

Num Days: 31
 MADT: 9,794
 MAWDT: 10,479
 MAWET: 7,961

August 2009

| | Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---------|--------|--------|---------|-----------|----------|--------|------------|
| Road | | | | | | | 1 9,237 |
| Neg DIR | | | | | | | 4,834 |
| Pos DIR | | | | | | | 4,403 |
| | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | 8,165 | 10,099 | 10,421 | 10,489 | 10,465 | 10,079 | 7,517 |
| | 4,279 | 5,308 | 5,348 | 5,431 | 5,383 | 5,290 | 3,956 |
| | 3,886 | 4,791 | 5,073 | 5,058 | 5,082 | 4,789 | 3,561 |
| | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| | 6,496 | 9,817 | 10,393 | 10,465 | 10,894 | 10,417 | 8,079 |
| | 3,364 | 5,107 | 5,475 | 5,511 | 5,606 | 5,501 | 4,216 |
| | 3,132 | 4,710 | 4,918 | 4,954 | 5,288 | 4,916 | 3,863 |
| | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| | 6,558 | 9,770 | 10,398 | 10,799 | 10,871 | 10,902 | 9,045 |
| | 3,422 | 5,115 | 5,432 | 5,685 | 5,700 | 5,649 | 4,721 |
| | 3,136 | 4,655 | 4,966 | 5,114 | 5,171 | 5,253 | 4,324 |
| | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| | 7,944 | 10,484 | 10,124 | 10,930 | 10,763 | 11,494 | 8,674 |
| | 4,211 | 5,416 | 5,228 | 5,581 | 5,570 | 5,986 | 4,503 |
| | 3,733 | 5,068 | 4,896 | 5,349 | 5,193 | 5,508 | 4,171 |
| | 30 | 31 | | | | | |
| | 7,897 | 10,635 | | | | | |
| | 4,131 | 5,496 | | | | | |
| | 3,766 | 5,139 | | | | | |
| MADW | 7,412 | 10,161 | 10,334 | 10,671 | 10,748 | 10,723 | 8,510 |
| STD | 814 | 389 | 141 | 230 | 197 | 615 | 709 |
| DAF | 1.32 | 0.96 | 0.95 | 0.92 | 0.91 | 0.91 | 1.15 |

Wisconsin Department of Transportation

Monthly Hourly Day of Week Summary for August 2009

Site Names: 130263, , SW
 County: Dane
 Funct. Class: R Minor Arterial - Other
 Location: CTH BB - EAST OF I-39-90-94

Seasonal Factor Group: 4
 Daily Factor Group: 4
 Axle Factor Group: 2
 Growth Factor Group: 1

| | Sunday | | Monday | | Tuesday | | Wednesday | | Thursday | | Friday | | Saturday | | | | | | | | |
|-------|--------|-----------------|--------|-----------------|---------|-----------------|-----------|-----------------|----------|-----------------|--------|-----------------|----------|-----------------|-------|--------|-------|-------|-------|-------|-------|
| | Road | Neg DIR Pos DIR | Road | Neg DIR Pos DIR | Road | Neg DIR Pos DIR | Road | Neg DIR Pos DIR | Road | Neg DIR Pos DIR | Road | Neg DIR Pos DIR | Road | Neg DIR Pos DIR | | | | | | | |
| 0:00 | 63 | 27 | 36 | 20 | 8 | 12 | 22 | 8 | 14 | 18 | 30 | 17 | 34 | 21 | 57 | 21 | 36 | | | | |
| 1:00 | 48 | 19 | 29 | 19 | 8 | 11 | 26 | 10 | 16 | 27 | 15 | 33 | 16 | 18 | 31 | 9 | 21 | 43 | 16 | 26 | |
| 2:00 | 23 | 9 | 14 | 16 | 12 | 5 | 19 | 13 | 6 | 21 | 12 | 9 | 25 | 11 | 23 | 14 | 27 | 12 | 15 | 15 | |
| 3:00 | 19 | 10 | 9 | 45 | 33 | 12 | 41 | 28 | 12 | 38 | 25 | 13 | 42 | 31 | 12 | 42 | 27 | 13 | 28 | 17 | 11 |
| 4:00 | 39 | 27 | 12 | 148 | 121 | 27 | 154 | 125 | 29 | 145 | 121 | 24 | 147 | 120 | 28 | 137 | 111 | 26 | 55 | 42 | 13 |
| 5:00 | 91 | 55 | 36 | 380 | 284 | 96 | 396 | 294 | 102 | 391 | 293 | 99 | 366 | 276 | 90 | 353 | 261 | 92 | 129 | 89 | 41 |
| 6:00 | 190 | 130 | 60 | 661 | 509 | 153 | 674 | 507 | 167 | 706 | 540 | 166 | 670 | 503 | 167 | 649 | 490 | 159 | 270 | 167 | 103 |
| 7:00 | 345 | 215 | 130 | 543 | 339 | 184 | 583 | 396 | 187 | 583 | 378 | 206 | 592 | 389 | 203 | 590 | 394 | 197 | 418 | 257 | 161 |
| 8:00 | 435 | 265 | 170 | 537 | 324 | 213 | 517 | 304 | 213 | 560 | 331 | 229 | 532 | 312 | 221 | 566 | 341 | 226 | 555 | 372 | 233 |
| 9:00 | 572 | 331 | 241 | 541 | 312 | 229 | 547 | 302 | 243 | 565 | 311 | 254 | 546 | 311 | 235 | 586 | 333 | 254 | 652 | 363 | 289 |
| 10:00 | 634 | 331 | 303 | 618 | 320 | 298 | 612 | 320 | 292 | 623 | 326 | 297 | 637 | 341 | 296 | 678 | 355 | 323 | 698 | 362 | 336 |
| 11:00 | 633 | 326 | 307 | 648 | 344 | 304 | 608 | 321 | 287 | 662 | 339 | 323 | 685 | 354 | 335 | 697 | 356 | 341 | 666 | 334 | 332 |
| 12:00 | 567 | 291 | 276 | 650 | 334 | 317 | 645 | 337 | 308 | 672 | 359 | 313 | 636 | 333 | 303 | 689 | 353 | 334 | 603 | 308 | 297 |
| 13:00 | 563 | 288 | 275 | 648 | 318 | 330 | 638 | 313 | 326 | 638 | 306 | 333 | 700 | 340 | 360 | 674 | 321 | 353 | 575 | 290 | 285 |
| 14:00 | 549 | 279 | 271 | 791 | 350 | 440 | 743 | 327 | 416 | 811 | 365 | 446 | 800 | 355 | 445 | 752 | 337 | 415 | 598 | 292 | 306 |
| 15:00 | 522 | 255 | 266 | 942 | 370 | 572 | 964 | 394 | 571 | 954 | 401 | 553 | 992 | 412 | 581 | 886 | 385 | 501 | 595 | 306 | 289 |
| 16:00 | 519 | 264 | 255 | 865 | 358 | 507 | 924 | 391 | 534 | 930 | 412 | 518 | 939 | 395 | 545 | 908 | 403 | 504 | 555 | 279 | 276 |
| 17:00 | 444 | 219 | 225 | 680 | 329 | 351 | 681 | 327 | 334 | 672 | 321 | 351 | 706 | 330 | 376 | 712 | 348 | 364 | 554 | 275 | 275 |
| 18:00 | 414 | 194 | 221 | 516 | 229 | 287 | 527 | 227 | 300 | 552 | 235 | 317 | 576 | 250 | 327 | 540 | 236 | 283 | 428 | 214 | 214 |
| 19:00 | 315 | 153 | 161 | 401 | 156 | 245 | 430 | 188 | 243 | 444 | 182 | 262 | 470 | 209 | 261 | 421 | 187 | 234 | 351 | 168 | 183 |
| 20:00 | 202 | 98 | 104 | 247 | 103 | 144 | 284 | 114 | 170 | 277 | 116 | 161 | 292 | 121 | 171 | 298 | 131 | 168 | 251 | 115 | 136 |
| 21:00 | 123 | 57 | 67 | 135 | 58 | 77 | 150 | 67 | 83 | 197 | 84 | 113 | 160 | 74 | 85 | 212 | 91 | 120 | 177 | 84 | 93 |
| 22:00 | 64 | 24 | 40 | 71 | 32 | 39 | 97 | 39 | 59 | 113 | 46 | 66 | 108 | 44 | 61 | 154 | 53 | 101 | 135 | 64 | 71 |
| 23:00 | 39 | 16 | 23 | 39 | 17 | 22 | 54 | 22 | 33 | 66 | 29 | 37 | 63 | 25 | 39 | 93 | 39 | 54 | 89 | 44 | 45 |
| MADW | 7,412 | 3,881 | 3,531 | 10,161 | 5,288 | 4,872 | 10,334 | 5,371 | 4,963 | 10,671 | 5,552 | 5,119 | 10,748 | 5,365 | 5,184 | 10,723 | 5,607 | 5,117 | 8,510 | 4,446 | 4,064 |
| NDAYS | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 |

Wisconsin Department of Transportation

Monthly Volume Calendar

Site Names: 130263, , SW
 County: Dane
 Funct. Class: R Minor Arterial - Other
 Location: CTH BB - EAST OF I-39-90-94

Num Days: 30
 MADT: 9,977
 MAWDT: 10,496
 MAWET: 8,176

September 2009

| | Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---------|--------|--------|---------|-----------|----------|--------|----------|
| | | | 1 | 2 | 3 | 4 | 5 |
| Road | | | 11,081 | 11,000 | 11,263 | 11,399 | 8,352 |
| Neg DIR | | | 5,767 | 5,705 | 5,884 | 5,938 | 4,433 |
| Pos DIR | | | 5,314 | 5,295 | 5,379 | 5,461 | 3,919 |
| | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| | 7,382 | 6,745 | 10,708 | 10,975 | 11,255 | 11,318 | 8,868 |
| | 3,848 | 3,461 | 5,552 | 5,723 | 5,868 | 5,900 | 4,702 |
| | 3,534 | 3,284 | 5,156 | 5,252 | 5,387 | 5,418 | 4,166 |
| | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| | 7,757 | 10,336 | 10,498 | 11,213 | 11,156 | 12,120 | 9,181 |
| | 4,073 | 5,395 | 5,463 | 5,810 | 5,757 | 6,344 | 4,853 |
| | 3,684 | 4,941 | 5,035 | 5,403 | 5,399 | 5,776 | 4,328 |
| | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| | 7,356 | 10,284 | 9,809 | 10,592 | 11,195 | 11,172 | 9,103 |
| | 3,853 | 5,366 | 5,066 | 5,490 | 5,768 | 5,763 | 4,762 |
| | 3,503 | 4,918 | 4,743 | 5,102 | 5,427 | 5,409 | 4,341 |
| | 27 | 28 | 29 | 30 | | | |
| | 7,407 | 10,105 | 10,317 | 10,807 | | | |
| | 3,922 | 5,240 | 5,348 | 5,583 | | | |
| | 3,485 | 4,865 | 4,969 | 5,224 | | | |
| MADW | 7,476 | 9,368 | 10,483 | 10,917 | 11,217 | 11,502 | 8,876 |
| STD | 189 | 1,751 | 472 | 232 | 51 | 422 | 374 |
| DAF | 1.33 | 1.07 | 0.95 | 0.91 | 0.89 | 0.87 | 1.12 |

Wisconsin Department of Transportation

Monthly Hourly Day of Week Summary for September 2009

Site Names: 130263, , SW
 County: Dane
 Funct. Class: R Minor Arterial - Other
 Location: CTH BB - EAST OF I-39-90-94
 Seasonal Factor Group: 4
 Daily Factor Group: 4
 Axle Factor Group: 2
 Growth Factor Group: 1

| | Sunday | | Monday | | Tuesday | | Wednesday | | Thursday | | Friday | | Saturday | |
|-------|--------|---------|---------|-------|---------|---------|-----------|---------|----------|--------|---------|---------|----------|---------|
| | Road | Pos DIR | Neg DIR | Road | Pos DIR | Neg DIR | Road | Pos DIR | Neg DIR | Road | Pos DIR | Neg DIR | Road | Pos DIR |
| 0:00 | 58 | 23 | 35 | 12 | 13 | 8 | 17 | 8 | 9 | 23 | 10 | 14 | 16 | 28 |
| 1:00 | 46 | 21 | 25 | 18 | 19 | 8 | 11 | 7 | 8 | 19 | 8 | 11 | 15 | 21 |
| 2:00 | 24 | 10 | 14 | 15 | 10 | 5 | 19 | 11 | 7 | 25 | 15 | 10 | 23 | 19 |
| 3:00 | 20 | 9 | 11 | 34 | 24 | 10 | 43 | 32 | 14 | 50 | 36 | 14 | 42 | 11 |
| 4:00 | 34 | 24 | 10 | 123 | 99 | 25 | 155 | 128 | 31 | 142 | 111 | 32 | 149 | 14 |
| 5:00 | 79 | 52 | 27 | 340 | 256 | 84 | 422 | 334 | 108 | 438 | 332 | 105 | 387 | 36 |
| 6:00 | 210 | 146 | 64 | 754 | 579 | 176 | 991 | 780 | 213 | 999 | 788 | 211 | 964 | 97 |
| 7:00 | 372 | 220 | 152 | 510 | 330 | 180 | 626 | 401 | 226 | 641 | 409 | 232 | 629 | 43 |
| 8:00 | 484 | 293 | 191 | 450 | 264 | 186 | 471 | 276 | 195 | 487 | 277 | 210 | 516 | 97 |
| 9:00 | 654 | 384 | 270 | 494 | 273 | 221 | 489 | 270 | 218 | 504 | 278 | 227 | 518 | 178 |
| 10:00 | 656 | 333 | 321 | 540 | 280 | 260 | 562 | 290 | 272 | 563 | 292 | 271 | 602 | 250 |
| 11:00 | 615 | 314 | 301 | 552 | 297 | 255 | 568 | 279 | 290 | 592 | 304 | 287 | 625 | 319 |
| 12:00 | 541 | 278 | 263 | 565 | 293 | 273 | 603 | 310 | 294 | 632 | 315 | 294 | 681 | 338 |
| 13:00 | 516 | 271 | 243 | 612 | 298 | 314 | 627 | 307 | 320 | 672 | 317 | 356 | 710 | 350 |
| 14:00 | 588 | 314 | 275 | 804 | 326 | 477 | 897 | 375 | 522 | 897 | 356 | 541 | 930 | 265 |
| 15:00 | 585 | 286 | 299 | 815 | 346 | 469 | 969 | 405 | 564 | 988 | 409 | 579 | 982 | 314 |
| 16:00 | 516 | 248 | 268 | 879 | 366 | 512 | 943 | 398 | 545 | 1,000 | 432 | 547 | 982 | 303 |
| 17:00 | 475 | 238 | 237 | 656 | 324 | 333 | 710 | 334 | 376 | 803 | 376 | 427 | 784 | 277 |
| 18:00 | 366 | 174 | 192 | 476 | 198 | 278 | 523 | 206 | 318 | 611 | 243 | 368 | 531 | 281 |
| 19:00 | 267 | 120 | 147 | 328 | 130 | 198 | 373 | 141 | 231 | 408 | 154 | 254 | 406 | 283 |
| 20:00 | 167 | 80 | 87 | 195 | 77 | 118 | 240 | 85 | 155 | 257 | 78 | 159 | 354 | 229 |
| 21:00 | 114 | 49 | 65 | 106 | 46 | 60 | 123 | 51 | 72 | 135 | 54 | 81 | 257 | 182 |
| 22:00 | 62 | 24 | 38 | 53 | 19 | 34 | 64 | 22 | 42 | 64 | 24 | 41 | 89 | 157 |
| 23:00 | 30 | 13 | 17 | 30 | 15 | 15 | 32 | 12 | 21 | 34 | 14 | 20 | 58 | 117 |
| MADW | 7,476 | 3,924 | 3,552 | 9,368 | 4,866 | 4,502 | 10,483 | 5,439 | 5,043 | 10,917 | 5,662 | 5,255 | 11,217 | 4,489 |
| NDAYS | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |

Wisconsin Department of Transportation

Monthly Volume Calendar

Site Names: 130263, , SW
 County: Dane
 Funct. Class: R Minor Arterial - Other
 Location: CTH BB - EAST OF I-39-90-94

Num Days: 31
 MADT: 9,845
 MAWDT: 10,375
 MAWET: 8,048

October 2009

| | Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---------|--------|--------|---------|-----------|----------|--------|----------|
| | | | | | 1 | 2 | 3 |
| Road | | | | | 10,668 | 11,688 | 8,564 |
| Neg DIR | | | | | 5,514 | 6,042 | 4,464 |
| Pos DIR | | | | | 5,154 | 5,646 | 4,100 |
| | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| | 7,003 | 10,736 | 10,005 | 10,867 | 10,759 | 11,989 | 8,568 |
| | 3,652 | 5,572 | 5,235 | 5,581 | 5,555 | 6,225 | 4,465 |
| | 3,351 | 5,164 | 4,770 | 5,286 | 5,204 | 5,764 | 4,103 |
| | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| | 7,204 | 9,950 | 9,957 | 10,868 | 10,534 | 11,557 | 9,004 |
| | 3,741 | 5,183 | 5,223 | 5,609 | 5,411 | 5,968 | 4,749 |
| | 3,463 | 4,767 | 4,734 | 5,259 | 5,123 | 5,589 | 4,255 |
| | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| | 7,476 | 10,325 | 10,340 | 10,563 | 10,338 | 10,769 | 9,148 |
| | 3,895 | 5,352 | 5,370 | 5,513 | 5,297 | 5,507 | 4,771 |
| | 3,581 | 4,973 | 4,970 | 5,050 | 5,041 | 5,262 | 4,377 |
| | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| | 7,105 | 9,814 | 10,491 | 10,498 | 9,676 | 10,590 | 9,206 |
| | 3,746 | 5,007 | 5,439 | 5,512 | 4,987 | 5,479 | 4,899 |
| | 3,359 | 4,807 | 5,052 | 4,986 | 4,689 | 5,111 | 4,307 |
| MADW | 7,197 | 10,206 | 10,198 | 10,699 | 10,395 | 11,219 | 8,898 |
| STD | 203 | 414 | 259 | 196 | 432 | 607 | 312 |
| DAF | 1.37 | 0.96 | 0.97 | 0.92 | 0.95 | 0.87 | 1.11 |

Wisconsin Department of Transportation

Monthly Hourly Day of Week Summary for October 2009

Site Names: 130263,, SW
 County: Dane
 Funct. Class: R Minor Arterial - Other
 Location: CTH BB - EAST OF I-39-90-94

Seasonal Factor Group: 4
 Daily Factor Group: 4
 Axle Factor Group: 2
 Growth Factor Group: 1

| | Sunday | | Monday | | Tuesday | | Wednesday | | Thursday | | Friday | | Saturday | |
|-------|--------|-------------------|--------|-------------------|---------|-------------------|-----------|-------------------|----------|-------------------|--------|-------------------|----------|-------------------|
| | Road | Neg DIR Pos DIR | Road | Neg DIR Pos DIR | Road | Neg DIR Pos DIR | Road | Neg DIR Pos DIR | Road | Neg DIR Pos DIR | Road | Neg DIR Pos DIR | Road | Neg DIR Pos DIR |
| 0:00 | 59 | 29 31 | 9 | 4 5 | 15 | 6 7 | 20 | 15 17 | 25 | 8 17 | 22 | 8 13 | 59 | 26 33 |
| 1:00 | 46 | 20 26 | 14 | 8 6 | 15 | 7 8 | 16 | 10 16 | 19 | 9 10 | 23 | 11 14 | 47 | 22 26 |
| 2:00 | 30 | 12 18 | 15 | 10 5 | 19 | 12 7 | 18 | 13 7 | 21 | 13 8 | 23 | 12 24 | 24 | 13 11 |
| 3:00 | 18 | 7 11 | 41 | 33 8 | 41 | 34 7 | 44 | 35 9 | 44 | 33 11 | 42 | 30 12 | 25 | 15 10 |
| 4:00 | 32 | 25 7 | 150 | 119 31 | 145 | 115 30 | 161 | 129 32 | 156 | 117 39 | 140 | 112 28 | 53 | 38 16 |
| 5:00 | 67 | 47 20 | 418 | 323 96 | 424 | 324 96 | 429 | 326 103 | 408 | 310 98 | 375 | 285 90 | 115 | 83 32 |
| 6:00 | 194 | 137 57 | 926 | 727 200 | 973 | 777 195 | 999 | 791 208 | 915 | 725 190 | 851 | 678 174 | 291 | 199 92 |
| 7:00 | 357 | 218 139 | 619 | 410 209 | 617 | 401 216 | 613 | 402 212 | 611 | 395 216 | 595 | 388 212 | 476 | 312 164 |
| 8:00 | 448 | 268 180 | 474 | 278 197 | 463 | 269 194 | 474 | 276 198 | 491 | 289 203 | 510 | 292 218 | 618 | 373 245 |
| 9:00 | 654 | 391 264 | 483 | 260 223 | 470 | 263 207 | 511 | 284 227 | 491 | 274 217 | 549 | 310 259 | 713 | 377 336 |
| 10:00 | 668 | 335 306 | 557 | 286 271 | 532 | 275 257 | 602 | 300 303 | 572 | 300 272 | 624 | 321 303 | 702 | 363 339 |
| 11:00 | 521 | 275 246 | 627 | 312 316 | 541 | 275 273 | 590 | 304 286 | 570 | 297 273 | 671 | 332 359 | 647 | 332 315 |
| 12:00 | 515 | 268 251 | 648 | 297 350 | 612 | 298 314 | 634 | 308 326 | 622 | 296 326 | 709 | 350 359 | 618 | 302 317 |
| 13:00 | 596 | 307 290 | 882 | 361 321 | 887 | 346 346 | 934 | 372 562 | 869 | 347 522 | 943 | 383 560 | 623 | 301 322 |
| 14:00 | 569 | 274 295 | 966 | 390 376 | 1,000 | 415 585 | 1,001 | 404 597 | 969 | 406 563 | 1,023 | 438 587 | 654 | 348 306 |
| 15:00 | 514 | 251 265 | 896 | 363 533 | 927 | 411 516 | 979 | 432 547 | 972 | 402 570 | 1,014 | 466 549 | 584 | 301 382 |
| 16:00 | 447 | 222 225 | 737 | 347 390 | 716 | 356 360 | 764 | 551 413 | 725 | 333 392 | 779 | 400 379 | 586 | 294 286 |
| 17:00 | 329 | 138 191 | 431 | 170 261 | 411 | 173 239 | 463 | 193 270 | 441 | 168 275 | 519 | 229 290 | 431 | 203 228 |
| 18:00 | 219 | 99 120 | 325 | 115 210 | 343 | 121 222 | 371 | 147 224 | 368 | 144 225 | 376 | 153 223 | 320 | 141 180 |
| 19:00 | 149 | 63 86 | 203 | 77 126 | 278 | 85 193 | 240 | 90 151 | 273 | 95 178 | 392 | 146 246 | 273 | 116 158 |
| 20:00 | 77 | 33 44 | 130 | 60 70 | 127 | 47 79 | 145 | 53 92 | 138 | 59 95 | 232 | 83 149 | 177 | 89 108 |
| 21:00 | 48 | 19 29 | 74 | 31 43 | 67 | 23 44 | 78 | 28 49 | 75 | 30 45 | 148 | 58 90 | 140 | 60 79 |
| 22:00 | 22 | 10 12 | 28 | 13 18 | 33 | 12 33 | 35 | 15 21 | 44 | 15 29 | 94 | 36 58 | 97 | 50 48 |
| 23:00 | 7,197 | 3,759 10,206 | 5,279 | 4,928 10,198 | 5,317 | 4,882 10,699 | 5,554 | 5,145 10,395 | 5,553 | 5,042 11,319 | 5,844 | 5,474 8,898 | 4,670 | 4,228 |
| NDAYS | 4 | 4 4 | 4 | 4 4 | 4 | 4 4 | 4 | 4 4 | 4 | 4 4 | 4 | 4 4 | 4 | 4 4 |

Wisconsin Department of Transportation

Monthly Volume Calendar

Site Names: 130263, , SW
 County: Dane
 Funct. Class: R Minor Arterial - Other
 Location: CTH BB - EAST OF I-39-90-94

Num Days: 29
 MADT: 9,508
 MAWDT: 10,063
 MAWET: 7,953

November 2009

| | Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---------|--------|--------|---------|-----------|----------|--------|----------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Road | 7,104 | 10,142 | - | 10,427 | 10,412 | 11,137 | 9,748 |
| Neg DIR | 3,726 | 5,234 | - | 5,336 | 5,397 | 5,761 | 5,101 |
| Pos DIR | 3,378 | 4,908 | - | 5,091 | 5,015 | 5,376 | 4,647 |
| | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| Road | 7,551 | 10,362 | 10,318 | 10,507 | 10,659 | 11,432 | 9,179 |
| Neg DIR | 3,904 | 5,310 | 5,360 | 5,411 | 5,498 | 5,965 | 4,745 |
| Pos DIR | 3,647 | 5,052 | 4,958 | 5,096 | 5,161 | 5,467 | 4,434 |
| | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| Road | 7,095 | 10,140 | 10,063 | 10,499 | 10,614 | 10,992 | 8,630 |
| Neg DIR | 3,700 | 5,251 | 5,215 | 5,400 | 5,494 | 5,712 | 4,502 |
| Pos DIR | 3,395 | 4,889 | 4,848 | 5,099 | 5,120 | 5,280 | 4,128 |
| | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| Road | 6,970 | 9,822 | 10,629 | 10,539 | 5,623 | 8,029 | 7,886 |
| Neg DIR | 3,576 | 5,138 | 5,444 | 5,419 | 2,887 | 4,097 | 4,096 |
| Pos DIR | 3,394 | 4,684 | 5,185 | 5,120 | 2,736 | 3,932 | 3,790 |
| | 29 | 30 | - | - | - | - | - |
| Road | 6,507 | 10,004 | - | - | - | - | - |
| Neg DIR | 3,328 | 5,197 | - | - | - | - | - |
| Pos DIR | 3,179 | 4,807 | - | - | - | - | - |
| MADW | 7,045 | 10,094 | 10,337 | 10,493 | 9,327 | 10,398 | 8,861 |
| STD | 373 | 199 | 283 | 47 | 2,472 | 1,590 | 794 |
| DAF | 1.35 | 0.94 | 0.92 | 0.91 | 1.02 | 0.91 | 1.07 |

Wisconsin Department of Transportation

Monthly Hourly Day of Week Summary for November 2009

Site Names: 130263,, SW
 County: Dane
 Funct. Class: R Minor Arterial - Other
 Location: CTH BB - EAST OF I-39-90-94

Seasonal Factor Group: 4
 Daily Factor Group: 4
 Axle Factor Group: 2
 Growth Factor Group: 1

| | Sunday | | Monday | | Tuesday | | Wednesday | | Thursday | | Friday | | Saturday | | | | | | | | |
|-------|--------|-------------------|--------|-------------------|---------|-------------------|-----------|-------------------|----------|-------------------|--------|-------------------|----------|-------------------|-------|--------|-------|-------|-------|-------|-------|
| | Road | Neg DIR / Pos DIR | Road | Neg DIR / Pos DIR | Road | Neg DIR / Pos DIR | Road | Neg DIR / Pos DIR | Road | Neg DIR / Pos DIR | Road | Neg DIR / Pos DIR | Road | Neg DIR / Pos DIR | | | | | | | |
| 0:00 | 94 | 39 | 55 | 26 | 12 | 14 | 19 | 39 | 15 | 23 | 35 | 47 | 18 | 29 | 92 | 38 | 54 | | | | |
| 1:00 | 63 | 26 | 37 | 11 | 5 | 6 | 18 | 22 | 8 | 14 | 31 | 9 | 22 | 24 | 61 | 25 | 36 | | | | |
| 2:00 | 47 | 18 | 29 | 13 | 6 | 7 | 16 | 8 | 18 | 7 | 12 | 28 | 10 | 19 | 25 | 9 | 19 | 28 | | | |
| 3:00 | 24 | 9 | 15 | 15 | 10 | 5 | 17 | 8 | 11 | 7 | 21 | 11 | 10 | 23 | 12 | 12 | 11 | 17 | | | |
| 4:00 | 22 | 9 | 12 | 38 | 29 | 9 | 36 | 27 | 9 | 42 | 33 | 8 | 36 | 27 | 9 | 43 | 31 | 21 | 11 | | |
| 5:00 | 39 | 26 | 14 | 137 | 108 | 28 | 126 | 97 | 29 | 126 | 101 | 24 | 106 | 81 | 25 | 103 | 81 | 22 | 38 | 24 | 13 |
| 6:00 | 75 | 51 | 22 | 351 | 264 | 87 | 339 | 255 | 85 | 335 | 250 | 85 | 275 | 197 | 78 | 277 | 206 | 71 | 99 | 72 | 27 |
| 7:00 | 193 | 137 | 55 | 963 | 769 | 195 | 932 | 778 | 174 | 863 | 680 | 183 | 719 | 562 | 157 | 726 | 567 | 158 | 217 | 143 | 75 |
| 8:00 | 354 | 227 | 127 | 664 | 450 | 214 | 679 | 452 | 226 | 678 | 468 | 210 | 532 | 370 | 162 | 603 | 397 | 207 | 437 | 287 | 149 |
| 9:00 | 460 | 282 | 177 | 494 | 295 | 199 | 498 | 285 | 211 | 482 | 284 | 199 | 440 | 256 | 184 | 500 | 293 | 207 | 594 | 366 | 229 |
| 10:00 | 667 | 405 | 262 | 503 | 280 | 223 | 473 | 272 | 202 | 526 | 295 | 231 | 482 | 279 | 203 | 551 | 300 | 252 | 723 | 397 | 326 |
| 11:00 | 630 | 317 | 313 | 570 | 294 | 277 | 567 | 291 | 276 | 608 | 330 | 279 | 603 | 311 | 292 | 687 | 349 | 337 | 733 | 384 | 349 |
| 12:00 | 638 | 322 | 317 | 571 | 284 | 287 | 575 | 286 | 290 | 624 | 315 | 309 | 569 | 285 | 284 | 692 | 335 | 357 | 688 | 338 | 350 |
| 13:00 | 569 | 281 | 287 | 618 | 312 | 305 | 563 | 288 | 275 | 595 | 291 | 305 | 497 | 244 | 253 | 642 | 316 | 326 | 647 | 362 | 285 |
| 14:00 | 547 | 268 | 278 | 644 | 311 | 333 | 611 | 295 | 316 | 637 | 301 | 337 | 545 | 261 | 284 | 700 | 349 | 351 | 603 | 289 | 313 |
| 15:00 | 527 | 259 | 268 | 857 | 336 | 521 | 918 | 371 | 547 | 858 | 361 | 497 | 789 | 334 | 454 | 849 | 365 | 484 | 590 | 287 | 303 |
| 16:00 | 518 | 260 | 259 | 898 | 360 | 538 | 962 | 398 | 564 | 959 | 385 | 574 | 845 | 366 | 479 | 902 | 401 | 501 | 665 | 338 | 327 |
| 17:00 | 441 | 199 | 242 | 937 | 374 | 563 | 977 | 390 | 587 | 962 | 397 | 566 | 827 | 360 | 468 | 904 | 413 | 491 | 617 | 304 | 313 |
| 18:00 | 361 | 179 | 182 | 623 | 289 | 333 | 647 | 306 | 341 | 707 | 319 | 389 | 631 | 294 | 336 | 620 | 306 | 314 | 548 | 268 | 280 |
| 19:00 | 309 | 122 | 187 | 426 | 154 | 271 | 452 | 191 | 261 | 455 | 180 | 275 | 418 | 182 | 236 | 443 | 197 | 246 | 413 | 200 | 213 |
| 20:00 | 212 | 94 | 117 | 351 | 138 | 213 | 396 | 147 | 249 | 385 | 153 | 232 | 362 | 150 | 211 | 376 | 151 | 225 | 310 | 141 | 168 |
| 21:00 | 133 | 64 | 70 | 198 | 74 | 124 | 254 | 96 | 158 | 290 | 104 | 185 | 280 | 114 | 166 | 291 | 126 | 166 | 285 | 114 | 171 |
| 22:00 | 83 | 37 | 46 | 115 | 44 | 70 | 148 | 55 | 94 | 172 | 70 | 102 | 149 | 58 | 91 | 231 | 94 | 137 | 227 | 110 | 117 |
| 23:00 | 43 | 15 | 27 | 72 | 28 | 44 | 83 | 30 | 55 | 95 | 36 | 59 | 87 | 36 | 51 | 145 | 62 | 83 | 170 | 73 | 98 |
| MADW | 7,045 | 3,647 | 3,399 | 10,094 | 5,226 | 4,868 | 10,337 | 5,340 | 4,997 | 10,493 | 5,392 | 5,102 | 9,327 | 4,819 | 4,508 | 10,398 | 5,384 | 5,014 | 8,861 | 4,611 | 4,250 |
| NDAYS | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |

APPENDIX B
Introduction to Capacity

INTRODUCTION TO CAPACITY

The main objective of a capacity analysis is to estimate the maximum amount of traffic that can be accommodated by a given facility. Traffic facilities generally operate poorly when they are at or near capacity and are not usually designed to do so. Ranges of operating conditions are defined by levels of service. A capacity analysis was conducted for the aforementioned intersections utilizing the methods in the Highway Capacity Manual, Special Report 209, published by the Transportation Research Board and utilizing software developed by the Federal Highway Administration.

Level of Service is a quantitative measure that refers to the overall quality of flow at an intersection ranging from very good, LOS A, to very poor, LOS F. The various levels of service are defined as follows:




















- ◆ LOS A is the highest level of service that can be achieved. Under this condition, intersection approaches appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation. The general level of comfort and convenience provided to the motorist, passenger, or pedestrian is excellent. At signalized intersections, average delays are less than or equal to ten seconds. At unsignalized intersections, average delays are zero to ten seconds.
- ◆ LOS B represents stable operation. The level of comfort and convenience provided is somewhat less than at LOS A, because the presence of others in the traffic stream begins to affect individual behavior. At signalized intersections, average vehicle delays are ten to twenty seconds. At unsignalized intersections, average delays are ten to fifteen seconds.
- ◆ LOS C still represents stable operation, but periodic backups of a few vehicles may develop behind turning vehicles. Most drivers begin to feel restricted, but not severely. The general level of comfort and convenience declines noticeably at this level. At signalized intersections, average vehicle delays are 20 to 35 seconds. At unsignalized intersections, average delays are 15 to 25 seconds.
- ◆ LOS D represents increasing traffic restrictions as the intersection approaches instability. Delays to approaching vehicles may be substantial during short peaks within the peak period, but periodic clearance of long lines occurs, this preventing excessive backups. At signalized intersections, average vehicle delays are 35 to 55 seconds. At unsignalized intersections, average delays are 25 to 35 seconds.
- ◆ LOS E represents operating conditions at or near the capacity level. Comfort and convenience levels are poor, and driver or pedestrian frustration is generally high. At signalized intersections, average vehicle delays are 55 to 80 seconds. At unsignalized intersections, average delays are 35 to 50 seconds.
- LOS F represents jammed conditions where the intersection is over capacity and acceptable gaps for unsignalized intersections in the mainline traffic flow are minimal. It is defined as forced, or breakdown flow. At signalized intersections, average vehicle delays exceed 80 seconds. At unsignalized intersections, average delays exceed 50 seconds.

APPENDIX C
SYNCHRO Capacity Analyses
Existing Conditions
2011 PM Peak Hour

HCM Unsignalized Intersection Capacity Analysis

1: Cottage Grove Road & North Star Drive





















12/21/2011

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | | |  |  | |  | | |  |  |
| Volume (veh/h) | 241 | 521 | 1 | 0 | 387 | 43 | 1 | 0 | 0 | 31 | 0 | 92 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.93 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Hourly flow rate (vph) | 251 | 543 | 1 | 0 | 403 | 45 | 1 | 0 | 0 | 32 | 0 | 96 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | 4 | | | | | | | | | | | |
| Median type | Raised | | | | | Raised | | | | | | |
| Median storage veh | 1 | | | | | 1 | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 448 | | | 544 | | | 1496 | 1493 | 543 | 1448 | 1449 | 403 |
| vC1, stage 1 conf vol | | | | | | | 1045 | 1045 | | 403 | 403 | |
| vC2, stage 2 conf vol | | | | | | | 451 | 448 | | 1045 | 1046 | |
| vCu, unblocked vol | 448 | | | 544 | | | 1496 | 1493 | 543 | 1448 | 1449 | 403 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | 6.1 | 5.5 | | 6.1 | 5.5 | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 77 | | | 100 | | | 99 | 100 | 100 | 81 | 100 | 85 |
| cM capacity (veh/h) | 1112 | | | 1025 | | | 137 | 166 | 540 | 174 | 190 | 647 |
| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | NB 1 | SB 1 | | | | | | |
| Volume Total | 251 | 544 | 403 | 45 | 1 | 128 | | | | | | |
| Volume Left | 251 | 0 | 0 | 0 | 1 | 32 | | | | | | |
| Volume Right | 0 | 1 | 0 | 45 | 0 | 96 | | | | | | |
| cSH | 1112 | 1700 | 1025 | 1700 | 137 | 691 | | | | | | |
| Volume to Capacity | 0.23 | 0.32 | 0.00 | 0.03 | 0.01 | 0.19 | | | | | | |
| Queue Length 95th (ft) | 22 | 0 | 0 | 0 | 1 | 17 | | | | | | |
| Control Delay (s) | 9.2 | 0.0 | 0.0 | 0.0 | 31.4 | 16.3 | | | | | | |
| Lane LOS | A | | | | D | C | | | | | | |
| Approach Delay (s) | 2.9 | | 0.0 | | 31.4 | 16.3 | | | | | | |
| Approach LOS | | | | | D | C | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Average Delay | | | 3.2 | | | | | | | | | |
| Intersection Capacity Utilization | | | 61.2% | | ICU Level of Service | | | | B | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis

















2: Cottage Grove Road & McLean Drive

12/21/2011

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  |  | |  | | |  |  |
| Volume (veh/h) | 24 | 577 | 68 | 35 | 424 | 6 | 36 | 5 | 28 | 3 | 2 | 17 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Hourly flow rate (vph) | 26 | 614 | 72 | 37 | 451 | 6 | 38 | 5 | 30 | 3 | 2 | 18 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | Raised | | | Raised | | | | | | | |
| Median storage veh | | 1 | | | 1 | | | | | | | |
| Upstream signal (ft) | | | | | 841 | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 457 | | | 686 | | | 1246 | 1233 | 650 | 1223 | 1263 | 451 |
| vC1, stage 1 conf vol | | | | | | | 701 | 701 | | 526 | 526 | |
| vC2, stage 2 conf vol | | | | | | | 545 | 532 | | 697 | 737 | |
| vCu, unblocked vol | 457 | | | 686 | | | 1246 | 1233 | 650 | 1223 | 1263 | 451 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | 6.1 | 5.5 | | 6.1 | 5.5 | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 98 | | | 96 | | | 85 | 98 | 94 | 99 | 99 | 97 |
| cM capacity (veh/h) | 1103 | | | 908 | | | 263 | 282 | 469 | 250 | 268 | 608 |
| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | WB 3 | NB 1 | NB 2 | SB 1 | SB 2 | | | |
| Volume Total | 26 | 686 | 37 | 451 | 6 | 41 | 32 | 4 | 19 | | | |
| Volume Left | 26 | 0 | 37 | 0 | 0 | 38 | 0 | 3 | 0 | | | |
| Volume Right | 0 | 72 | 0 | 0 | 6 | 0 | 30 | 0 | 18 | | | |
| cSH | 1103 | 1700 | 908 | 1700 | 1700 | 264 | 445 | 254 | 568 | | | |
| Volume to Capacity | 0.02 | 0.40 | 0.04 | 0.27 | 0.00 | 0.16 | 0.07 | 0.02 | 0.03 | | | |
| Queue Length 95th (ft) | 2 | 0 | 3 | 0 | 0 | 14 | 6 | 1 | 3 | | | |
| Control Delay (s) | 8.3 | 0.0 | 9.1 | 0.0 | 0.0 | 21.1 | 13.7 | 19.4 | 11.6 | | | |
| Lane LOS | A | | A | | | C | B | C | B | | | |
| Approach Delay (s) | 0.3 | | 0.7 | | | 17.9 | | 13.0 | | | | |
| Approach LOS | | | | | | C | | B | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Average Delay | | | 1.7 | | | | | | | | | |
| Intersection Capacity Utilization | | | 49.8% | | | ICU Level of Service | | | A | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |

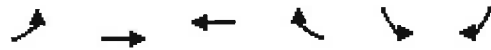
HCM Unsignalized Intersection Capacity Analysis
 21: North Star Drive & Jupiter Drive/Sharpsburg Drive

12/15/2011

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  | | |  | | |  | |
| Volume (veh/h) | 2 | 5 | 51 | 13 | 5 | 1 | 120 | 114 | 50 | 2 | 59 | 3 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 |
| Hourly flow rate (vph) | 2 | 6 | 59 | 15 | 6 | 1 | 138 | 131 | 57 | 2 | 68 | 3 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | | | | | |
| Median storage veh | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 514 | 539 | 70 | 571 | 511 | 160 | 71 | | | 189 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 514 | 539 | 70 | 571 | 511 | 160 | 71 | | | 189 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 99 | 99 | 94 | 96 | 99 | 100 | 91 | | | 100 | | |
| cM capacity (veh/h) | 433 | 408 | 993 | 373 | 423 | 885 | 1529 | | | 1386 | | |
| Direction, Lane # | | | | | | | | | | | | |
| | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total | 67 | 22 | 326 | 74 | | | | | | | | |
| Volume Left | 2 | 15 | 138 | 2 | | | | | | | | |
| Volume Right | 59 | 1 | 57 | 3 | | | | | | | | |
| cSH | 850 | 398 | 1529 | 1386 | | | | | | | | |
| Volume to Capacity | 0.08 | 0.05 | 0.09 | 0.00 | | | | | | | | |
| Queue Length 95th (ft) | 6 | 4 | 7 | 0 | | | | | | | | |
| Control Delay (s) | 9.6 | 14.6 | 3.7 | 0.3 | | | | | | | | |
| Lane LOS | A | B | A | A | | | | | | | | |
| Approach Delay (s) | 9.6 | 14.6 | 3.7 | 0.3 | | | | | | | | |
| Approach LOS | A | B | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Average Delay | | | 4.4 | | | | | | | | | |
| Intersection Capacity Utilization | | | 36.5% | | ICU Level of Service | | | | | A | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
 18: Sharpsburg Drive & Gemini Drive













12/15/2011



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|-----------------------------------|------|------|-------|----------------------|------|------|
| Lane Configurations | | ↕ | ↗ | | ↖ | |
| Volume (veh/h) | 12 | 45 | 15 | 8 | 5 | 4 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 13 | 49 | 16 | 9 | 5 | 4 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | None | None | | | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 25 | | | | 96 | 21 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 25 | | | | 96 | 21 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 99 | | | | 99 | 100 |
| cM capacity (veh/h) | 1589 | | | | 896 | 1057 |
| Direction, Lane # | EB 1 | WB 1 | SB 1 | | | |
| Volume Total | 62 | 25 | 10 | | | |
| Volume Left | 13 | 0 | 5 | | | |
| Volume Right | 0 | 9 | 4 | | | |
| cSH | 1589 | 1700 | 961 | | | |
| Volume to Capacity | 0.01 | 0.01 | 0.01 | | | |
| Queue Length 95th (ft) | 1 | 0 | 1 | | | |
| Control Delay (s) | 1.6 | 0.0 | 8.8 | | | |
| Lane LOS | A | | A | | | |
| Approach Delay (s) | 1.6 | 0.0 | 8.8 | | | |
| Approach LOS | | | A | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 1.9 | | | |
| Intersection Capacity Utilization | | | 19.7% | ICU Level of Service | | A |
| Analysis Period (min) | | | 15 | | | |

HCM Unsignalized Intersection Capacity Analysis
 12: McLean Drive & Sharpsburg Drive




















12/15/2011

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Right Turn Channelized | | | | | | | | | | | | |
| Volume (veh/h) | 1 | 14 | 1 | 4 | 31 | 4 | 3 | 20 | 6 | 1 | 4 | 0 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Hourly flow rate (vph) | 1 | 15 | 1 | 4 | 33 | 4 | 3 | 21 | 6 | 1 | 4 | 0 |
| Approach Volume (veh/h) | | 17 | | | 41 | | | 31 | | | 5 | |
| Crossing Volume (veh/h) | | 10 | | | 26 | | | 17 | | | 40 | |
| High Capacity (veh/h) | | 1374 | | | 1357 | | | 1366 | | | 1342 | |
| High v/c (veh/h) | | 0.01 | | | 0.03 | | | 0.02 | | | 0.00 | |
| Low Capacity (veh/h) | | 1152 | | | 1136 | | | 1145 | | | 1122 | |
| Low v/c (veh/h) | | 0.01 | | | 0.04 | | | 0.03 | | | 0.00 | |
| Intersection Summary | | | | | | | | | | | | |
| Maximum v/c High | | | 0.03 | | | | | | | | | |
| Maximum v/c Low | | | 0.04 | | | | | | | | | |
| Intersection Capacity Utilization | | | 13.3% | | ICU Level of Service | | | | | | A | |

APPENDIX D
SYNCHRO Capacity Analyses
2017 PM Peak Hour
Existing Geometrics

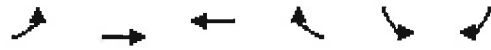
HCM Unsignalized Intersection Capacity Analysis
 1: Cottage Grove Road & North Star Drive

12/21/2011

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | | |  |  | |  | | |  |  |
| Volume (veh/h) | 364 | 816 | 1 | 0 | 627 | 64 | 1 | 0 | 0 | 66 | 0 | 168 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| 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 |
| Hourly flow rate (vph) | 379 | 850 | 1 | 0 | 653 | 67 | 1 | 0 | 0 | 69 | 0 | 175 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | 4 |
| Median type | | Raised | | | Raised | | | | | | | |
| Median storage veh | | 1 | | | 1 | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 720 | | | 851 | | | 2349 | 2329 | 851 | 2261 | 2262 | 653 |
| vC1, stage 1 conf vol | | | | | | | 1609 | 1609 | | 653 | 653 | |
| vC2, stage 2 conf vol | | | | | | | 741 | 720 | | 1608 | 1609 | |
| vCu, unblocked vol | 720 | | | 851 | | | 2349 | 2329 | 851 | 2261 | 2262 | 653 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | 6.1 | 5.5 | | 6.1 | 5.5 | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 57 | | | 100 | | | 90 | 100 | 100 | 0 | 100 | 63 |
| cM capacity (veh/h) | 882 | | | 787 | | | 10 | 40 | 360 | 63 | 76 | 467 |
| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | NB 1 | SB 1 | | | | | | |
| Volume Total | 379 | 851 | 653 | 67 | 1 | 244 | | | | | | |
| Volume Left | 379 | 0 | 0 | 0 | 1 | 69 | | | | | | |
| Volume Right | 0 | 1 | 0 | 67 | 0 | 175 | | | | | | |
| cSH | 882 | 1700 | 787 | 1700 | 10 | 204 | | | | | | |
| Volume to Capacity | 0.43 | 0.50 | 0.00 | 0.04 | 0.10 | 1.20 | | | | | | |
| Queue Length 95th (ft) | 55 | 0 | 0 | 0 | 7 | 310 | | | | | | |
| Control Delay (s) | 12.1 | 0.0 | 0.0 | 0.0 | 386.4 | 173.9 | | | | | | |
| Lane LOS | B | | | | F | F | | | | | | |
| Approach Delay (s) | 3.7 | | 0.0 | | 386.4 | 173.9 | | | | | | |
| Approach LOS | | | | | F | F | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Average Delay | | | 21.6 | | | | | | | | | |
| Intersection Capacity Utilization | | | 89.4% | | ICU Level of Service | | | | E | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
 20: Cottage Grove Road & Extension Gemini

12/21/2011



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|-----------------------------------|------|--------|--------|------|----------------------|------|
| Lane Configurations | ↵ | ↑ | ↶ | | ↵ | ↶ |
| Volume (veh/h) | 126 | 831 | 581 | 20 | 98 | 136 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 137 | 903 | 632 | 22 | 107 | 148 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | Raised | Raised | | | |
| Median storage veh | | 1 | 1 | | | |
| Upstream signal (ft) | | 507 | | | | |
| pX, platoon unblocked | | | | | 0.73 | |
| vC, conflicting volume | 653 | | | | 1820 | 642 |
| vC1, stage 1 conf vol | | | | | 642 | |
| vC2, stage 2 conf vol | | | | | 1177 | |
| vCu, unblocked vol | 653 | | | | 1938 | 642 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | 5.4 | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 85 | | | | 30 | 69 |
| cM capacity (veh/h) | 934 | | | | 152 | 474 |
| Direction, Lane # | EB 1 | EB 2 | WB 1 | SB 1 | SB 2 | |
| Volume Total | 137 | 903 | 653 | 107 | 148 | |
| Volume Left | 137 | 0 | 0 | 107 | 0 | |
| Volume Right | 0 | 0 | 22 | 0 | 148 | |
| cSH | 934 | 1700 | 1700 | 152 | 474 | |
| Volume to Capacity | 0.15 | 0.53 | 0.38 | 0.70 | 0.31 | |
| Queue Length 95th (ft) | 13 | 0 | 0 | 102 | 33 | |
| Control Delay (s) | 9.5 | 0.0 | 0.0 | 71.0 | 16.0 | |
| Lane LOS | A | | | F | C | |
| Approach Delay (s) | 1.3 | | 0.0 | 39.0 | | |
| Approach LOS | | | | E | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 5.8 | | | |
| Intersection Capacity Utilization | | | 55.8% | | ICU Level of Service | B |
| Analysis Period (min) | | | 15 | | | |

HCM Unsignalized Intersection Capacity Analysis
 25: Cottage Grove Road & east driveway

12/21/2011



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|------------------------|------|--------|--------|------|------|------|
| Lane Configurations | ↙ | ↑ | ↑ | | | ↗ |
| Volume (veh/h) | 84 | 845 | 582 | 60 | 0 | 19 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 91 | 918 | 633 | 65 | 0 | 21 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | Raised | Raised | | | |
| Median storage veh | | 1 | 1 | | | |
| Upstream signal (ft) | | 857 | | | | |
| pX, platoon unblocked | | | | | 0.77 | |
| vC, conflicting volume | 698 | | | | 1766 | 665 |
| vC1, stage 1 conf vol | | | | | 665 | |
| vC2, stage 2 conf vol | | | | | 1101 | |
| vCu, unblocked vol | 698 | | | | 1846 | 665 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | 5.4 | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 90 | | | | 100 | 96 |
| cM capacity (veh/h) | 899 | | | | 176 | 460 |





















| Direction, Lane # | EB 1 | EB 2 | WB 1 | SB 1 |
|------------------------|------|------|------|------|
| Volume Total | 91 | 918 | 698 | 21 |
| Volume Left | 91 | 0 | 0 | 0 |
| Volume Right | 0 | 0 | 65 | 21 |
| cSH | 899 | 1700 | 1700 | 460 |
| Volume to Capacity | 0.10 | 0.54 | 0.41 | 0.04 |
| Queue Length 95th (ft) | 8 | 0 | 0 | 4 |
| Control Delay (s) | 9.5 | 0.0 | 0.0 | 13.2 |
| Lane LOS | A | | | B |
| Approach Delay (s) | 0.9 | | 0.0 | 13.2 |
| Approach LOS | | | | B |

| Intersection Summary | | | |
|-----------------------------------|--|-------|------------------------|
| Average Delay | | 0.7 | |
| Intersection Capacity Utilization | | 47.8% | ICU Level of Service A |
| Analysis Period (min) | | 15 | |

HCM Unsignalized Intersection Capacity Analysis

2: McLean Drive & Cottage Grove Road

12/21/2011

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  |  | |  | | |  |  |
| Volume (veh/h) | 37 | 796 | 86 | 44 | 605 | 10 | 40 | 6 | 31 | 5 | 3 | 25 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Hourly flow rate (vph) | 39 | 847 | 91 | 47 | 644 | 11 | 43 | 6 | 33 | 5 | 3 | 27 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | Raised | | | Raised | | | | | | | |
| Median storage veh | | 1 | | | 1 | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 654 | | | 938 | | | 1737 | 1719 | 893 | 1699 | 1754 | 644 |
| vC1, stage 1 conf vol | | | | | | | 971 | 971 | | 737 | 737 | |
| vC2, stage 2 conf vol | | | | | | | 765 | 748 | | 962 | 1017 | |
| vCu, unblocked vol | 654 | | | 938 | | | 1737 | 1719 | 893 | 1699 | 1754 | 644 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | 6.1 | 5.5 | | 6.1 | 5.5 | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 96 | | | 94 | | | 74 | 97 | 90 | 96 | 98 | 94 |
| cM capacity (veh/h) | 933 | | | 730 | | | 163 | 189 | 341 | 150 | 174 | 473 |
| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | WB 3 | NB 1 | NB 2 | SB 1 | SB 2 | | | |
| Volume Total | 39 | 938 | 47 | 644 | 11 | 46 | 36 | 7 | 28 | | | |
| Volume Left | 39 | 0 | 47 | 0 | 0 | 43 | 0 | 5 | 0 | | | |
| Volume Right | 0 | 91 | 0 | 0 | 11 | 0 | 33 | 0 | 27 | | | |
| cSH | 933 | 1700 | 730 | 1700 | 1700 | 165 | 318 | 155 | 431 | | | |
| Volume to Capacity | 0.04 | 0.55 | 0.06 | 0.38 | 0.01 | 0.28 | 0.11 | 0.04 | 0.07 | | | |
| Queue Length 95th (ft) | 3 | 0 | 5 | 0 | 0 | 27 | 10 | 3 | 5 | | | |
| Control Delay (s) | 9.0 | 0.0 | 10.3 | 0.0 | 0.0 | 35.0 | 17.8 | 29.4 | 13.9 | | | |
| Lane LOS | A | | B | | | E | C | D | B | | | |
| Approach Delay (s) | 0.4 | | 0.7 | | | 27.4 | | 17.0 | | | | |
| Approach LOS | | | | | | D | | C | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Average Delay | | | 2.0 | | | | | | | | | |
| Intersection Capacity Utilization | | | 62.7% | | | ICU Level of Service | | | B | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |

Lanes, Volumes, Timings
 1: Cottage Grove Road & North Star Drive

12/21/2011

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|------|-----|------|------|--------|------|-------|-----|------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 364 | 816 | 1 | 0 | 627 | 64 | 1 | 0 | 0 | 66 | 0 | 168 |
| Satd. Flow (prot) | 1770 | 1863 | 0 | 0 | 1863 | 1583 | 0 | 1770 | 0 | 0 | 1770 | 1583 |
| Flt Permitted | 0.155 | | | | | | | 0.712 | | | 0.757 | |
| Satd. Flow (perm) | 289 | 1863 | 0 | 0 | 1863 | 1583 | 0 | 1326 | 0 | 0 | 1410 | 1583 |
| Satd. Flow (RTOR) | | | | | | 26 | | | | | | 175 |
| Lane Group Flow (vph) | 379 | 851 | 0 | 0 | 653 | 67 | 0 | 1 | 0 | 0 | 69 | 175 |
| Turn Type | pm+pt | NA | | Perm | NA | custom | Perm | NA | | Perm | NA | Perm |
| Protected Phases | 1 | 6 | | | 2 | | | 8 | | | 4 | |
| Permitted Phases | 6 | | | 2 | | 8 | 8 | | | 4 | | 4 |
| Total Split (s) | 16.0 | 52.0 | | 36.0 | 36.0 | 23.0 | 23.0 | 23.0 | | 23.0 | 23.0 | 23.0 |
| Total Lost Time (s) | 4.0 | 5.0 | | | 5.0 | 5.0 | | 5.0 | | | 4.0 | 4.0 |
| Act Effct Green (s) | 43.2 | 42.2 | | | 26.0 | 8.8 | | 8.8 | | | 9.8 | 9.8 |
| Actuated g/C Ratio | 0.71 | 0.69 | | | 0.43 | 0.14 | | 0.14 | | | 0.16 | 0.16 |
| v/c Ratio | 0.76 | 0.66 | | | 0.82 | 0.27 | | 0.01 | | | 0.30 | 0.44 |
| Control Delay | 22.3 | 8.5 | | | 25.6 | 20.3 | | 24.0 | | | 28.3 | 8.5 |
| Queue Delay | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | | 0.0 | 0.0 |
| Total Delay | 22.3 | 8.5 | | | 25.6 | 20.3 | | 24.0 | | | 28.3 | 8.5 |
| LOS | C | A | | | C | C | | C | | | C | A |
| Approach Delay | | 12.8 | | | 25.1 | | | 24.0 | | | 14.1 | |
| Approach LOS | | B | | | C | | | C | | | B | |
| Queue Length 50th (ft) | 63 | 131 | | | 196 | 14 | | 0 | | | 24 | 0 |
| Queue Length 95th (ft) | #214 | 270 | | | #359 | 47 | | 4 | | | 59 | 47 |
| Internal Link Dist (ft) | | 550 | | | 427 | | | 280 | | | 311 | |
| Turn Bay Length (ft) | 100 | | | | | 75 | | | | | | 100 |
| Base Capacity (vph) | 498 | 1447 | | | 954 | 489 | | 394 | | | 443 | 617 |
| Starvation Cap Reductn | 0 | 0 | | | 0 | 0 | | 0 | | | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | | 0 | 0 | | 0 | | | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | | 0 | 0 | | 0 | | | 0 | 0 |
| Reduced v/c Ratio | 0.76 | 0.59 | | | 0.68 | 0.14 | | 0.00 | | | 0.16 | 0.28 |

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 61.1

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 17.0

Intersection LOS: B

Intersection Capacity Utilization 95.2%

ICU Level of Service F

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Cottage Grove Road & North Star Drive

| | | | | | | | | |
|------|------|--|--|------|--|--|--|--|
| | | | | | | | | |
| 16 s | 36 s | | | 23 s | | | | |
| | | | | | | | | |
| 52 s | | | | 23 s | | | | |

APPENDIX E
SYNCHRO Capacity Analyses
2017 PM Peak Hour
Proposed Geometrics – Cottage Grove Road

Lanes, Volumes, Timings
1: Cottage Grove Rd. & North Star Drive

12/15/2011

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|------|------|------|------|------|------|-------|------|------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 364 | 816 | 1 | 0 | 627 | 64 | 1 | 0 | 0 | 66 | 0 | 168 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 100 | | 0 | 0 | | 75 | 0 | | 0 | 0 | | 100 |
| Storage Lanes | 1 | | 0 | 0 | | 1 | 0 | | 0 | 0 | | 1 |
| Taper Length (ft) | 100 | | | 100 | | | 100 | | | 100 | | |
| Satd. Flow (prot) | 1770 | 3539 | 0 | 0 | 3539 | 1583 | 0 | 1770 | 0 | 0 | 1770 | 1583 |
| Flt Permitted | 0.241 | | | | | | | 0.712 | | | 0.757 | |
| Satd. Flow (perm) | 449 | 3539 | 0 | 0 | 3539 | 1583 | 0 | 1326 | 0 | 0 | 1410 | 1583 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | | | | 67 | | | | | | 175 |
| Link Speed (mph) | | 40 | | | 40 | | | 25 | | | | 25 |
| Link Distance (ft) | | 630 | | | 467 | | | 174 | | | | 391 |
| Travel Time (s) | | 10.7 | | | 8.0 | | | 4.7 | | | | 10.7 |
| Lane Group Flow (vph) | 379 | 851 | 0 | 0 | 653 | 67 | 0 | 1 | 0 | 0 | 69 | 175 |
| Turn Type | pm+pt | NA | | Perm | NA | Perm | Perm | NA | | Perm | NA | Perm |
| Protected Phases | 1 | 6 | | | 2 | | | 8 | | | 4 | |
| Permitted Phases | 6 | | | 2 | | 2 | 8 | | | 4 | | 4 |
| Total Split (s) | 16.0 | 38.0 | | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | | 22.0 | 22.0 | 22.0 |
| Total Lost Time (s) | 4.0 | 4.0 | | | 4.0 | 4.0 | | 4.0 | | | 4.0 | 4.0 |
| Act Effect Green (s) | 28.8 | 28.8 | | | 14.4 | 14.4 | | 9.0 | | | 9.0 | 9.0 |
| Actuated g/C Ratio | 0.63 | 0.63 | | | 0.31 | 0.31 | | 0.20 | | | 0.20 | 0.20 |
| v/c Ratio | 0.65 | 0.38 | | | 0.59 | 0.12 | | 0.00 | | | 0.25 | 0.39 |
| Control Delay | 11.4 | 4.8 | | | 16.0 | 4.7 | | 17.0 | | | 19.8 | 6.7 |
| Queue Delay | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | | 0.0 | 0.0 |
| Total Delay | 11.4 | 4.8 | | | 16.0 | 4.7 | | 17.0 | | | 19.8 | 6.7 |
| LOS | B | A | | | B | A | | B | | | B | A |
| Approach Delay | | 6.8 | | | 14.9 | | | 17.0 | | | 10.4 | |
| Approach LOS | | A | | | B | | | B | | | B | |
| Queue Length 50th (ft) | 34 | 41 | | | 72 | 0 | | 0 | | | 16 | 0 |
| Queue Length 95th (ft) | 112 | 82 | | | 131 | 20 | | 3 | | | 46 | 39 |
| Internal Link Dist (ft) | | 550 | | | 387 | | | 94 | | | 311 | |
| Turn Bay Length (ft) | 100 | | | | | 75 | | | | | | 100 |
| Base Capacity (vph) | 633 | 2667 | | | 1412 | 672 | | 529 | | | 563 | 737 |
| Starvation Cap Reductn | 0 | 0 | | | 0 | 0 | | 0 | | | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | | 0 | 0 | | 0 | | | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | | 0 | 0 | | 0 | | | 0 | 0 |
| Reduced v/c Ratio | 0.60 | 0.32 | | | 0.46 | 0.10 | | 0.00 | | | 0.12 | 0.24 |

Intersection Summary


Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 45.9
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.65
 Intersection Signal Delay: 9.9
 Intersection Capacity Utilization 56.6%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service B

*Proposed Geometries - traffic signal
 with development traffic*

Lanes, Volumes, Timings
1: Cottage Grove Rd. & North Star Drive

12/15/2011

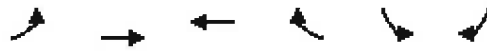
Splits and Phases: 1: Cottage Grove Rd. & North Star Drive

| | | |
|--|--|---|
|  ø1 |  ø2 |  ø4 |
| 16 s | 22 s | 22 s |
|  ø6 | |  ø8 |
| 38 s | | 22 s |

HCM Unsignalized Intersection Capacity Analysis

27: Cottage Grove Rd. & west driveway

12/21/2011



| Movement | EBL | EBT | WBT | WBR | SBL | SBR | |
|-----------------------------------|------|--------|--------|------|----------------------|------|------|
| Lane Configurations | ↙ | ↑↑ | ↑↑ | | ↘ | ↗ | |
| Volume (veh/h) | 126 | 831 | 581 | 20 | 98 | 136 | |
| Sign Control | | Free | Free | | Stop | | |
| Grade | | 0% | 0% | | 0% | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | |
| Hourly flow rate (vph) | 137 | 903 | 632 | 22 | 107 | 148 | |
| Pedestrians | | | | | | | |
| Lane Width (ft) | | | | | | | |
| Walking Speed (ft/s) | | | | | | | |
| Percent Blockage | | | | | | | |
| Right turn flare (veh) | | | | | | | |
| Median type | | Raised | Raised | | | | |
| Median storage (veh) | | 1 | 1 | | | | |
| Upstream signal (ft) | | 467 | | | | | |
| pX, platoon unblocked | | | | | 0.92 | | |
| vC, conflicting volume | 653 | | | | 1368 | 327 | |
| vC1, stage 1 conf vol | | | | | 642 | | |
| vC2, stage 2 conf vol | | | | | 726 | | |
| vCu, unblocked vol | 653 | | | | 1229 | 327 | |
| tC, single (s) | 4.1 | | | | 6.8 | 6.9 | |
| tC, 2 stage (s) | | | | | 5.8 | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 | |
| p0 queue free % | 85 | | | | 61 | 78 | |
| cM capacity (veh/h) | 929 | | | | 270 | 669 | |
| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | SB 1 | SB 2 |
| Volume Total | 137 | 452 | 452 | 421 | 232 | 107 | 148 |
| Volume Left | 137 | 0 | 0 | 0 | 0 | 107 | 0 |
| Volume Right | 0 | 0 | 0 | 0 | 22 | 0 | 148 |
| cSH | 929 | 1700 | 1700 | 1700 | 1700 | 270 | 669 |
| Volume to Capacity | 0.15 | 0.27 | 0.27 | 0.25 | 0.14 | 0.39 | 0.22 |
| Queue Length 95th (ft) | 13 | 0 | 0 | 0 | 0 | 45 | 21 |
| Control Delay (s) | 9.5 | 0.0 | 0.0 | 0.0 | 0.0 | 26.7 | 11.9 |
| Lane LOS | A | | | | | D | B |
| Approach Delay (s) | 1.3 | | | 0.0 | | 18.1 | |
| Approach LOS | | | | | | C | |
| Intersection Summary | | | | | | | |
| Average Delay | | | 3.0 | | | | |
| Intersection Capacity Utilization | | | 39.1% | | ICU Level of Service | | A |
| Analysis Period (min) | | | 15 | | | | |

HCM Unsignalized Intersection Capacity Analysis
 23: Cottage Grove Rd./Cottage Grove Road & Store Front

12/21/2011






















| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|------------------------|------|--------|--------|------|------|------|
| Lane Configurations | ↙ | ↑↑ | ↑↑ | ↗ | | ↘ |
| Volume (veh/h) | 84 | 845 | 582 | 60 | 0 | 19 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 91 | 918 | 633 | 65 | 0 | 21 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | Raised | Raised | | | |
| Median storage (veh) | | 1 | 1 | | | |
| Upstream signal (ft) | | 907 | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 698 | | | | 1274 | 316 |
| vC1, stage 1 conf vol | | | | | 633 | |
| vC2, stage 2 conf vol | | | | | 642 | |
| vCu, unblocked vol | 698 | | | | 1274 | 316 |
| tC, single (s) | 4.1 | | | | 6.8 | 6.9 |
| tC, 2 stage (s) | | | | | 5.8 | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 90 | | | | 100 | 97 |
| cM capacity (veh/h) | 894 | | | | 276 | 679 |

| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | WB 3 | SB 1 |
|------------------------|------|------|------|------|------|------|------|
| Volume Total | 91 | 459 | 459 | 316 | 316 | 65 | 21 |
| Volume Left | 91 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 0 | 0 | 0 | 0 | 0 | 65 | 21 |
| cSH | 894 | 1700 | 1700 | 1700 | 1700 | 1700 | 679 |
| Volume to Capacity | 0.10 | 0.27 | 0.27 | 0.19 | 0.19 | 0.04 | 0.03 |
| Queue Length 95th (ft) | 8 | 0 | 0 | 0 | 0 | 0 | 2 |
| Control Delay (s) | 9.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 10.5 |
| Lane LOS | A | | | | | | B |
| Approach Delay (s) | 0.9 | | | 0.0 | | | 10.5 |
| Approach LOS | | | | | | | B |

| Intersection Summary | | | |
|-----------------------------------|-------|----------------------|---|
| Average Delay | | 0.6 | |
| Intersection Capacity Utilization | 27.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

















HCM Unsignalized Intersection Capacity Analysis
 2: McLean Drive & Cottage Grove Road

12/21/2011

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | | |  | | |  |  |
| Volume (veh/h) | 37 | 796 | 86 | 44 | 605 | 10 | 40 | 6 | 31 | 5 | 3 | 25 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Hourly flow rate (vph) | 39 | 847 | 91 | 47 | 644 | 11 | 43 | 6 | 33 | 5 | 3 | 27 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | Raised | | | Raised | | | | | | | |
| Median storage (veh) | | 1 | | | 1 | | | | | | | |
| Upstream signal (ft) | | | | | 841 | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 654 | | | 938 | | | 1415 | 1719 | 469 | 1281 | 1760 | 327 |
| vC1, stage 1 conf vol | | | | | | | 971 | 971 | | 743 | 743 | |
| vC2, stage 2 conf vol | | | | | | | 444 | 748 | | 538 | 1017 | |
| vCu, unblocked vol | 654 | | | 938 | | | 1415 | 1719 | 469 | 1281 | 1760 | 327 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.5 | 6.5 | 6.9 | 7.5 | 6.5 | 6.9 |
| tC, 2 stage (s) | | | | | | | 6.5 | 5.5 | | 6.5 | 5.5 | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 96 | | | 94 | | | 77 | 97 | 94 | 98 | 98 | 96 |
| cM capacity (veh/h) | 929 | | | 726 | | | 187 | 188 | 541 | 215 | 173 | 669 |
| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | WB 3 | NB 1 | NB 2 | SB 1 | SB 2 | | |
| Volume Total | 39 | 565 | 374 | 47 | 429 | 225 | 46 | 36 | 7 | 28 | | |
| Volume Left | 39 | 0 | 0 | 47 | 0 | 0 | 43 | 0 | 5 | 0 | | |
| Volume Right | 0 | 0 | 91 | 0 | 0 | 11 | 0 | 33 | 0 | 27 | | |
| cSH | 929 | 1700 | 1700 | 726 | 1700 | 1700 | 187 | 464 | 203 | 575 | | |
| Volume to Capacity | 0.04 | 0.33 | 0.22 | 0.06 | 0.25 | 0.13 | 0.25 | 0.08 | 0.03 | 0.05 | | |
| Queue Length 95th (ft) | 3 | 0 | 0 | 5 | 0 | 0 | 23 | 6 | 3 | 4 | | |
| Control Delay (s) | 9.0 | 0.0 | 0.0 | 10.3 | 0.0 | 0.0 | 30.4 | 13.4 | 23.3 | 11.6 | | |
| Lane LOS | A | | | B | | | D | B | C | B | | |
| Approach Delay (s) | 0.4 | | | 0.7 | | | 22.9 | | 13.9 | | | |
| Approach LOS | | | | | | | C | | B | | | |
| Intersection Summary | | | | | | | | | | | | |
| Average Delay | | | | 1.8 | | | | | | | | |
| Intersection Capacity Utilization | | | 47.0% | | | | ICU Level of Service | | A | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
 21: North Star Drive & Jupiter Drive/Sharpsburg Drive


















12/16/2011

| |  |  |  |  |  |  |  |  |  |  |  |  | |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|--|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
| Lane Configurations | |  | | |  | | |  | | |  | | |
| Volume (veh/h) | 3 | 6 | 64 | 62 | 6 | 1 | 144 | 179 | 85 | 3 | 112 | 4 | |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | | |
| Peak Hour Factor | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | |
| Hourly flow rate (vph) | 3 | 7 | 74 | 71 | 7 | 1 | 166 | 206 | 98 | 3 | 129 | 5 | |
| Pedestrians | | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | | |
| Median type | | | | | | None | | | None | | | | |
| Median storage (veh) | | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | 391 | |
| pX, platoon unblocked | 0.94 | 0.94 | | 0.94 | 0.94 | 0.94 | | | | 0.94 | | | |
| vC, conflicting volume | 728 | 772 | 131 | 801 | 726 | 255 | 133 | | | 303 | | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | | |
| vCu, unblocked vol | 675 | 723 | 131 | 753 | 673 | 169 | 133 | | | 221 | | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | | |
| tC, 2 stage (s) | | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | | |
| p0 queue free % | 99 | 98 | 92 | 72 | 98 | 100 | 89 | | | 100 | | | |
| cM capacity (veh/h) | 308 | 292 | 918 | 251 | 311 | 819 | 1451 | | | 1261 | | | |
| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | | |
| Volume Total | 84 | 79 | 469 | 137 | | | | | | | | | |
| Volume Left | 3 | 71 | 166 | 3 | | | | | | | | | |
| Volume Right | 74 | 1 | 98 | 5 | | | | | | | | | |
| cSH | 730 | 258 | 1451 | 1261 | | | | | | | | | |
| Volume to Capacity | 0.11 | 0.31 | 0.11 | 0.00 | | | | | | | | | |
| Queue Length 95th (ft) | 10 | 31 | 10 | 0 | | | | | | | | | |
| Control Delay (s) | 10.6 | 25.0 | 3.5 | 0.2 | | | | | | | | | |
| Lane LOS | B | D | A | A | | | | | | | | | |
| Approach Delay (s) | 10.6 | 25.0 | 3.5 | 0.2 | | | | | | | | | |
| Approach LOS | B | D | | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | | |
| Average Delay | | | 5.9 | | | | | | | | | | |
| Intersection Capacity Utilization | | | 46.4% | | ICU Level of Service | | | | A | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis

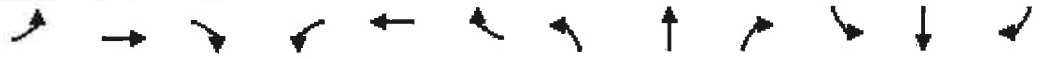
18: Sharpsburg Drive & Gemini Drive

12/15/2011

| |  |  |  |  |  |  |  |  |  |  |  |  | |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
| Lane Configurations | |  | | |  | | |  |  | |  | | |
| Volume (veh/h) | 15 | 57 | 31 | 32 | 19 | 14 | 46 | 31 | 46 | 12 | 31 | 5 | |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | | |
| 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 | |
| Hourly flow rate (vph) | 16 | 62 | 34 | 35 | 21 | 15 | 50 | 34 | 50 | 13 | 34 | 5 | |
| Pedestrians | | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | | |
| Median type | None | | | | | None | | | | | | | |
| Median storage (veh) | | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | | |
| vC, conflicting volume | 36 | | | 96 | | | | 232 | 217 | 79 | 276 | 226 | 28 |
| vC1, stage 1 conf vol | | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | | |
| vCu, unblocked vol | 36 | | | 96 | | | | 232 | 217 | 79 | 276 | 226 | 28 |
| tC, single (s) | 4.1 | | | 4.1 | | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 99 | | | 98 | | | | 93 | 95 | 95 | 98 | 95 | 99 |
| cM capacity (veh/h) | 1575 | | | 1498 | | | | 674 | 658 | 982 | 601 | 651 | 1047 |
| Direction, Lane # | EB 1 | WB 1 | NB 1 | NB 2 | SB 1 | | | | | | | | |
| Volume Total | 112 | 71 | 84 | 50 | 52 | | | | | | | | |
| Volume Left | 16 | 35 | 50 | 0 | 13 | | | | | | | | |
| Volume Right | 34 | 15 | 0 | 50 | 5 | | | | | | | | |
| cSH | 1575 | 1498 | 667 | 982 | 663 | | | | | | | | |
| Volume to Capacity | 0.01 | 0.02 | 0.13 | 0.05 | 0.08 | | | | | | | | |
| Queue Length 95th (ft) | 1 | 2 | 11 | 4 | 6 | | | | | | | | |
| Control Delay (s) | 1.1 | 3.8 | 11.2 | 8.9 | 10.9 | | | | | | | | |
| Lane LOS | A | A | B | A | B | | | | | | | | |
| Approach Delay (s) | 1.1 | 3.8 | 10.3 | | 10.9 | | | | | | | | |
| Approach LOS | | | B | | B | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | | |
| Average Delay | | | 6.3 | | | | | | | | | | |
| Intersection Capacity Utilization | | | 25.3% | | ICU Level of Service | | | | A | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
 12: McLean Drive & Sharpsburg Drive

12/15/2011






















| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Right Turn Channelized | | | | | | | | | | | | |
| Volume (veh/h) | 1 | 53 | 1 | 6 | 66 | 5 | 3 | 22 | 8 | 1 | 4 | 0 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Hourly flow rate (vph) | 1 | 56 | 1 | 6 | 70 | 5 | 3 | 23 | 9 | 1 | 4 | 0 |
| Approach Volume (veh/h) | | 59 | | | 82 | | | 35 | | | 5 | |
| Crossing Volume (veh/h) | | 12 | | | 28 | | | 59 | | | 80 | |
| High Capacity (veh/h) | | 1372 | | | 1355 | | | 1323 | | | 1301 | |
| High v/c (veh/h) | | 0.04 | | | 0.06 | | | 0.03 | | | 0.00 | |
| Low Capacity (veh/h) | | 1150 | | | 1134 | | | 1105 | | | 1085 | |
| Low v/c (veh/h) | | 0.05 | | | 0.07 | | | 0.03 | | | 0.00 | |

| Intersection Summary | | | | | | | | | | | | |
|-----------------------------------|--|--|--|--|--|--|--|--|--|---|--|-------|
| Maximum v/c High | | | | | | | | | | | | 0.06 |
| Maximum v/c Low | | | | | | | | | | | | 0.07 |
| Intersection Capacity Utilization | | | | | | | | | | | | 17.1% |
| ICU Level of Service | | | | | | | | | | A | | |

HCM Unsignalized Intersection Capacity Analysis

2: McLean Drive & Cottage Grove Road

1/5/2012

| |  |  |  |  |  |  |  |  |  |  |  |  | | | | | | |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|------|--|------|--|-----|--|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | | | | | | |
| Lane Configurations |  |  | |  |  | | |  | | |  |  | | | | | | |
| Volume (veh/h) | 30 | 727 | 86 | 44 | 534 | 8 | 40 | 6 | 31 | 4 | 3 | 21 | | | | | | |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | | | | | | | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | | | | | | | |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | | | | | | |
| Hourly flow rate (vph) | 32 | 773 | 91 | 47 | 568 | 9 | 43 | 6 | 33 | 4 | 3 | 22 | | | | | | |
| Pedestrians | | | | | | | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | | | | | | | |
| Median type | | Raised | | | Raised | | | | | | | | | | | | | |
| Median storage veh | | 1 | | | 1 | | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | | | | | | | |
| vC, conflicting volume | 577 | | | 865 | | | 1285 | | 1553 | | 432 | | 1153 | | 1595 | | 288 | |
| vC1, stage 1 conf vol | | | | | | | 883 | | 883 | | | | 666 | | 666 | | | |
| vC2, stage 2 conf vol | | | | | | | 402 | | 670 | | | | 487 | | 929 | | | |
| vCu, unblocked vol | 577 | | | 865 | | | 1285 | | 1553 | | 432 | | 1153 | | 1595 | | 288 | |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.5 | | 6.5 | | 6.9 | | 7.5 | | 6.5 | | 6.9 | |
| tC, 2 stage (s) | | | | | | | 6.5 | | 5.5 | | | | 6.5 | | 5.5 | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | | 4.0 | | 3.3 | | 3.5 | | 4.0 | | 3.3 | |
| p0 queue free % | 97 | | | 94 | | | 80 | | 97 | | 94 | | 98 | | 98 | | 97 | |
| cM capacity (veh/h) | 993 | | | 774 | | | 216 | | 216 | | 571 | | 246 | | 198 | | 708 | |
| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | WB 3 | NB 1 | NB 2 | SB 1 | SB 2 | | | | | | | | |
| Volume Total | 32 | 516 | 349 | 47 | 379 | 198 | 46 | 36 | 6 | 24 | | | | | | | | |
| Volume Left | 32 | 0 | 0 | 47 | 0 | 0 | 43 | 0 | 4 | 0 | | | | | | | | |
| Volume Right | 0 | 0 | 91 | 0 | 0 | 9 | 0 | 33 | 0 | 22 | | | | | | | | |
| cSH | 993 | 1700 | 1700 | 774 | 1700 | 1700 | 216 | 499 | 231 | 605 | | | | | | | | |
| Volume to Capacity | 0.03 | 0.30 | 0.21 | 0.06 | 0.22 | 0.12 | 0.21 | 0.07 | 0.03 | 0.04 | | | | | | | | |
| Queue Length 95th (ft) | 2 | 0 | 0 | 5 | 0 | 0 | 19 | 6 | 2 | 3 | | | | | | | | |
| Control Delay (s) | 8.7 | 0.0 | 0.0 | 10.0 | 0.0 | 0.0 | 26.1 | 12.8 | 21.0 | 11.2 | | | | | | | | |
| Lane LOS | A | | | A | | | D | | B | | C | | B | | | | | |
| Approach Delay (s) | 0.3 | | | 0.7 | | | 20.2 | | 13.1 | | | | | | | | | |
| Approach LOS | | | | | | | C | | B | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | | | | | | | |
| Average Delay | | | | 1.7 | | | | | | | | | | | | | | |
| Intersection Capacity Utilization | | | | 45.1% | | | ICU Level of Service | | | A | | | | | | | | |
| Analysis Period (min) | | | | 15 | | | | | | | | | | | | | | |

APPENDIX F
SYNCHRO Capacity Analyses
2032 PM Peak Hour

Lanes, Volumes, Timings
1: Cottage Grove Rd. & North Star Drive

12/19/2011

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|------|-----|------|------|------|------|-------|-----|------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 470 | 1046 | 2 | 0 | 797 | 83 | 100 | 10 | 50 | 79 | 5 | 207 |
| Satd. Flow (prot) | 1770 | 3539 | 0 | 0 | 3539 | 1583 | 0 | 1731 | 0 | 0 | 1779 | 1583 |
| Flt Permitted | 0.179 | | | | | | | 0.758 | | | 0.667 | |
| Satd. Flow (perm) | 333 | 3539 | 0 | 0 | 3539 | 1583 | 0 | 1353 | 0 | 0 | 1242 | 1583 |
| Satd. Flow (RTOR) | | | | | | 60 | | 35 | | | | 216 |
| Lane Group Flow (vph) | 490 | 1092 | 0 | 0 | 830 | 86 | 0 | 166 | 0 | 0 | 87 | 216 |
| Turn Type | pm+pt | NA | | Perm | NA | Perm | Perm | NA | | Perm | NA | Perm |
| Protected Phases | 1 | 6 | | | 2 | | | 8 | | | 4 | |
| Permitted Phases | 6 | | | 2 | | 2 | 8 | | | 4 | | 4 |
| Total Split (s) | 20.0 | 43.0 | | 23.0 | 23.0 | 23.0 | 22.0 | 22.0 | | 22.0 | 22.0 | 22.0 |
| Total Lost Time (s) | 5.0 | 5.0 | | | 5.0 | 5.0 | | 4.0 | | | 4.0 | 4.0 |
| Act Effct Green (s) | 37.0 | 37.0 | | | 17.3 | 17.3 | | 11.4 | | | 11.4 | 11.4 |
| Actuated g/C Ratio | 0.64 | 0.64 | | | 0.30 | 0.30 | | 0.20 | | | 0.20 | 0.20 |
| v/c Ratio | 0.84 | 0.48 | | | 0.78 | 0.17 | | 0.56 | | | 0.35 | 0.44 |
| Control Delay | 28.1 | 6.6 | | | 25.6 | 8.6 | | 24.5 | | | 24.3 | 6.6 |
| Queue Delay | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | | 0.0 | 0.0 |
| Total Delay | 28.1 | 6.6 | | | 25.6 | 8.6 | | 24.5 | | | 24.3 | 6.6 |
| LOS | C | A | | | C | A | | C | | | C | A |
| Approach Delay | | 13.2 | | | 24.0 | | | 24.5 | | | 11.7 | |
| Approach LOS | | B | | | C | | | C | | | B | |
| Queue Length 50th (ft) | 100 | 80 | | | 133 | 6 | | 41 | | | 27 | 0 |
| Queue Length 95th (ft) | #301 | 159 | | | #250 | 36 | | 92 | | | 61 | 44 |
| Internal Link Dist (ft) | | 550 | | | 387 | | | 94 | | | 311 | |
| Turn Bay Length (ft) | 100 | | | | | 75 | | | | | | 100 |
| Base Capacity (vph) | 593 | 2362 | | | 1119 | 541 | | 452 | | | 392 | 648 |
| Starvation Cap Reductn | 0 | 0 | | | 0 | 0 | | 0 | | | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | | 0 | 0 | | 0 | | | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | | 0 | 0 | | 0 | | | 0 | 0 |
| Reduced v/c Ratio | 0.83 | 0.46 | | | 0.74 | 0.16 | | 0.37 | | | 0.22 | 0.33 |

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 57.4

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 17.0

Intersection LOS: B

Intersection Capacity Utilization 78.5%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Cottage Grove Rd. & North Star Drive

| | | |
|------|------|------|
| | | |
| ø1 | ø2 | ø4 |
| 20 s | 23 s | 22 s |
| | | |
| ø6 | | ø8 |
| 43 s | | 22 s |

HCM Unsignalized Intersection Capacity Analysis
 27: Cottage Grove Rd. & Gemini extension

12/21/2011



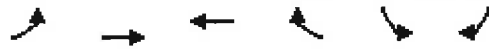
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|------------------------|------|--------|--------|------|------|------|
| Lane Configurations | ↖ | ↑↑ | ↗ | | ↖ | ↗ |
| Volume (veh/h) | 126 | 1099 | 779 | 20 | 98 | 136 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 137 | 1195 | 847 | 22 | 107 | 148 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | Raised | Raised | | | |
| Median storage (veh) | | 1 | 1 | | | |
| Upstream signal (ft) | | 467 | | | | |
| pX, platoon unblocked | | | | | 0.86 | |
| vC, conflicting volume | 868 | | | | 1729 | 434 |
| vC1, stage 1 conf vol | | | | | 858 | |
| vC2, stage 2 conf vol | | | | | 871 | |
| vCu, unblocked vol | 868 | | | | 1515 | 434 |
| tC, single (s) | 4.1 | | | | 6.8 | 6.9 |
| tC, 2 stage (s) | | | | | 5.8 | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 82 | | | | 50 | 74 |
| cM capacity (veh/h) | 771 | | | | 212 | 570 |

| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | SB 1 | SB 2 |
|------------------------|------|------|------|------|------|------|------|
| Volume Total | 137 | 597 | 597 | 564 | 304 | 107 | 148 |
| Volume Left | 137 | 0 | 0 | 0 | 0 | 107 | 0 |
| Volume Right | 0 | 0 | 0 | 0 | 22 | 0 | 148 |
| cSH | 771 | 1700 | 1700 | 1700 | 1700 | 212 | 570 |
| Volume to Capacity | 0.18 | 0.35 | 0.35 | 0.33 | 0.18 | 0.50 | 0.26 |
| Queue Length 95th (ft) | 16 | 0 | 0 | 0 | 0 | 64 | 26 |
| Control Delay (s) | 10.7 | 0.0 | 0.0 | 0.0 | 0.0 | 38.0 | 13.5 |
| Lane LOS | B | | | | | E | B |
| Approach Delay (s) | 1.1 | | | 0.0 | | 23.8 | |
| Approach LOS | | | | | | C | |

| Intersection Summary | | | |
|-----------------------------------|-------|----------------------|---|
| Average Delay | | 3.1 | |
| Intersection Capacity Utilization | 44.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

HCM Unsignalized Intersection Capacity Analysis
 23: Cottage Grove Rd./Cottage Grove Road & grocery driveway

12/21/2011



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|------------------------|------|--------|--------|------|------|------|
| Lane Configurations | ↙ | ↑↑ | ↑↑ | ↘ | | ↘ |
| Volume (veh/h) | 84 | 1113 | 780 | 60 | 0 | 19 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 91 | 1210 | 848 | 65 | 0 | 21 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | Raised | Raised | | | |
| Median storage (veh) | | 1 | 1 | | | |
| Upstream signal (ft) | | 907 | | | | |
| pX, platoon unblocked | | | | | 0.91 | |
| vC, conflicting volume | 913 | | | | 1635 | 424 |
| vC1, stage 1 conf vol | | | | | 848 | |
| vC2, stage 2 conf vol | | | | | 788 | |
| vCu, unblocked vol | 913 | | | | 1497 | 424 |
| tC, single (s) | 4.1 | | | | 6.8 | 6.9 |
| tC, 2 stage (s) | | | | | 5.8 | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 88 | | | | 100 | 96 |
| cM capacity (veh/h) | 742 | | | | 224 | 579 |




















| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | WB 3 | SB 1 |
|------------------------|------|------|------|------|------|------|------|
| Volume Total | 91 | 605 | 605 | 424 | 424 | 65 | 21 |
| Volume Left | 91 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 0 | 0 | 0 | 0 | 0 | 65 | 21 |
| cSH | 742 | 1700 | 1700 | 1700 | 1700 | 1700 | 579 |
| Volume to Capacity | 0.12 | 0.36 | 0.36 | 0.25 | 0.25 | 0.04 | 0.04 |
| Queue Length 95th (ft) | 10 | 0 | 0 | 0 | 0 | 0 | 3 |
| Control Delay (s) | 10.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 11.5 |
| Lane LOS | B | | | | | | B |
| Approach Delay (s) | 0.7 | | | 0.0 | | | 11.5 |
| Approach LOS | | | | | | | B |

| Intersection Summary | | | |
|-----------------------------------|-------|----------------------|---|
| Average Delay | | 0.5 | |
| Intersection Capacity Utilization | 34.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

HCM Unsignalized Intersection Capacity Analysis

2: McLean Drive & Cottage Grove Road

12/21/2011

| |  |  |  |  |  |  |  |  |  |  |  |  | | | | | | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|-----|--|--|------|--|--|------|--|--|-----|--|--|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | | | | | | | | | | | | |
| Lane Configurations |  |  | |  |  | | |  | | |  |  | | | | | | | | | | | | |
| Volume (veh/h) | 48 | 1050 | 116 | 60 | 792 | 12 | 61 | 9 | 48 | 6 | 3 | 33 | | | | | | | | | | | | |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | | | | | | | | | | | | | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | | | | | | | | | | | | | |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | | | | | | | | | | | | |
| Hourly flow rate (vph) | 51 | 1117 | 123 | 64 | 843 | 13 | 65 | 10 | 51 | 6 | 3 | 35 | | | | | | | | | | | | |
| Pedestrians | | | | | | | | | | | | | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | | | | | | | | | | | | | |
| Median type | | Raised | | | Raised | | | | | | | | | | | | | | | | | | | |
| Median storage (veh) | | 1 | | | 1 | | | | | | | | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | | | | | | | | | | | | | |
| vC, conflicting volume | 855 | | | 1240 | | | 1866 | | | 2264 | | | 620 | | | 1693 | | | 2319 | | | 428 | | |
| vC1, stage 1 conf vol | | | | | | | 1281 | | | 1281 | | | | | | 977 | | | 977 | | | | | |
| vC2, stage 2 conf vol | | | | | | | 586 | | | 983 | | | | | | 716 | | | 1343 | | | | | |
| vCu, unblocked vol | 855 | | | 1240 | | | 1866 | | | 2264 | | | 620 | | | 1693 | | | 2319 | | | 428 | | |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.5 | | | 6.5 | | | 6.9 | | | 7.5 | | | 6.5 | | | 6.9 | | |
| tC, 2 stage (s) | | | | | | | 6.5 | | | 5.5 | | | | | | 6.5 | | | 5.5 | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | | | 4.0 | | | 3.3 | | | 3.5 | | | 4.0 | | | 3.3 | | |
| p0 queue free % | 93 | | | 89 | | | 43 | | | 92 | | | 88 | | | 95 | | | 97 | | | 94 | | |
| cM capacity (veh/h) | 780 | | | 557 | | | 114 | | | 119 | | | 431 | | | 129 | | | 99 | | | 575 | | |
| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | WB 3 | NB 1 | NB 2 | SB 1 | SB 2 | | | | | | | | | | | | | | |
| Volume Total | 51 | 745 | 496 | 64 | 562 | 294 | 70 | 56 | 8 | 37 | | | | | | | | | | | | | | |
| Volume Left | 51 | 0 | 0 | 64 | 0 | 0 | 65 | 0 | 6 | 0 | | | | | | | | | | | | | | |
| Volume Right | 0 | 0 | 123 | 0 | 0 | 13 | 0 | 51 | 0 | 35 | | | | | | | | | | | | | | |
| cSH | 780 | 1700 | 1700 | 557 | 1700 | 1700 | 114 | 352 | 122 | 475 | | | | | | | | | | | | | | |
| Volume to Capacity | 0.07 | 0.44 | 0.29 | 0.11 | 0.33 | 0.17 | 0.61 | 0.16 | 0.07 | 0.08 | | | | | | | | | | | | | | |
| Queue Length 95th (ft) | 5 | 0 | 0 | 10 | 0 | 0 | 76 | 14 | 5 | 6 | | | | | | | | | | | | | | |
| Control Delay (s) | 9.9 | 0.0 | 0.0 | 12.3 | 0.0 | 0.0 | 76.6 | 17.2 | 36.7 | 13.2 | | | | | | | | | | | | | | |
| Lane LOS | A | | | B | | | F | C | E | B | | | | | | | | | | | | | | |
| Approach Delay (s) | 0.4 | | | 0.9 | | | 50.2 | | | 17.4 | | | | | | | | | | | | | | |
| Approach LOS | | | | | | | F | | | C | | | | | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | | | | | | | | | | | | | |
| Average Delay | | | | 3.5 | | | | | | | | | | | | | | | | | | | | |
| Intersection Capacity Utilization | | | | 56.1% | | | ICU Level of Service | | | B | | | | | | | | | | | | | | |
| Analysis Period (min) | | | | 15 | | | | | | | | | | | | | | | | | | | | |

Lanes, Volumes, Timings
2: McLean Drive & Cottage Grove Road

12/21/2011

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|------|-----|-------|------|-----|------|-------|-----|------|-------|-----|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 48 | 1050 | 116 | 60 | 792 | 12 | 61 | 9 | 48 | 6 | 3 | 33 |
| Satd. Flow (prot) | 1770 | 3486 | 0 | 1770 | 3532 | 0 | 0 | 3240 | 0 | 0 | 3096 | 0 |
| Flt Permitted | 0.331 | | | 0.160 | | | | 0.810 | | | 0.909 | |
| Satd. Flow (perm) | 617 | 3486 | 0 | 298 | 3532 | 0 | 0 | 2692 | 0 | 0 | 2834 | 0 |
| Satd. Flow (RTOR) | | 17 | | | 3 | | | 51 | | | 35 | |
| Lane Group Flow (vph) | 51 | 1240 | 0 | 64 | 856 | 0 | 0 | 126 | 0 | 0 | 44 | 0 |
| Turn Type | pm+pt | NA | | pm+pt | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 1 | 6 | | 5 | 2 | | | 8 | | | 4 | |
| Permitted Phases | 6 | | | 2 | | | 8 | | | 4 | | |
| Total Split (s) | 12.0 | 31.0 | | 22.0 | 41.0 | | 22.0 | 22.0 | | 22.0 | 22.0 | |
| Total Lost Time (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | | 4.0 | | | 4.0 | |
| Act Effct Green (s) | 53.6 | 54.4 | | 53.6 | 54.4 | | | 8.6 | | | 8.6 | |
| Actuated g/C Ratio | 0.71 | 0.73 | | 0.71 | 0.73 | | | 0.11 | | | 0.11 | |
| v/c Ratio | 0.09 | 0.49 | | 0.17 | 0.33 | | | 0.36 | | | 0.12 | |
| Control Delay | 5.2 | 5.3 | | 6.6 | 6.1 | | | 22.1 | | | 14.3 | |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Delay | 5.2 | 5.3 | | 6.6 | 6.1 | | | 22.1 | | | 14.3 | |
| LOS | A | A | | A | A | | | C | | | B | |
| Approach Delay | | 5.3 | | | 6.1 | | | 22.1 | | | 14.3 | |
| Approach LOS | | A | | | A | | | C | | | B | |
| Queue Length 50th (ft) | 7 | 105 | | 10 | 90 | | | 17 | | | 2 | |
| Queue Length 95th (ft) | m17 | 134 | | 26 | 135 | | | 41 | | | 16 | |
| Internal Link Dist (ft) | | 285 | | | 1116 | | | 366 | | | 750 | |
| Turn Bay Length (ft) | 125 | | | 200 | | | | | | | | |
| Base Capacity (vph) | 564 | 2535 | | 566 | 2565 | | | 685 | | | 707 | |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | | 0 | | | 0 | |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | | 0 | | | 0 | |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | | 0 | | | 0 | |
| Reduced v/c Ratio | 0.09 | 0.49 | | 0.11 | 0.33 | | | 0.18 | | | 0.06 | |

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 0 (0%), Referenced to phase 2:WBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.49
 Intersection Signal Delay: 6.7
 Intersection Capacity Utilization 59.4%
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

















Splits and Phases: 2: McLean Drive & Cottage Grove Road

| | | |
|------|------|------|
| ø2 | ø1 | ø4 |
| 41 s | 12 s | 22 s |
| ø5 | ø6 | ø8 |
| 22 s | 31 s | 22 s |

HCM Unsignalized Intersection Capacity Analysis













21: North Star Drive & Jupiter Drive/Sharpsburg Drive

12/15/2011

| |  |  |  |  |  |  |  |  |  |  |  |  | | |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|--|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | | |
| Lane Configurations | |  | | |  | | |  | | |  | | | |
| Volume (veh/h) | 3 | 9 | 87 | 68 | 9 | 2 | 194 | 228 | 104 | 3 | 138 | 5 | | |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | | | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | | | |
| Peak Hour Factor | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | | |
| Hourly flow rate (vph) | 3 | 10 | 100 | 78 | 10 | 2 | 223 | 262 | 120 | 3 | 159 | 6 | | |
| Pedestrians | | | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | | | |
| Median type | | | | | | | | | None | | | | | None |
| Median storage (veh) | | | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | 391 | | | | | |
| pX, platoon unblocked | 0.87 | 0.87 | | 0.87 | 0.87 | 0.87 | | | | 0.87 | | | | |
| vC, conflicting volume | 944 | 996 | 161 | 1041 | 939 | 322 | 164 | | | 382 | | | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | | | |
| vCu, unblocked vol | 861 | 921 | 161 | 973 | 855 | 146 | 164 | | | 215 | | | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | | | |
| tC, 2 stage (s) | | | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | | | |
| p0 queue free % | 98 | 95 | 89 | 48 | 95 | 100 | 84 | | | 100 | | | | |
| cM capacity (veh/h) | 202 | 198 | 883 | 151 | 216 | 784 | 1414 | | | 1179 | | | | |
| Direction, Lane # | | | | | | | | | | | | | | |
| | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | | | |
| Volume Total | 114 | 91 | 605 | 168 | | | | | | | | | | |
| Volume Left | 3 | 78 | 223 | 3 | | | | | | | | | | |
| Volume Right | 100 | 2 | 120 | 6 | | | | | | | | | | |
| cSH | 623 | 159 | 1414 | 1179 | | | | | | | | | | |
| Volume to Capacity | 0.18 | 0.57 | 0.16 | 0.00 | | | | | | | | | | |
| Queue Length 95th (ft) | 17 | 74 | 14 | 0 | | | | | | | | | | |
| Control Delay (s) | 12.1 | 54.0 | 4.0 | 0.2 | | | | | | | | | | |
| Lane LOS | B | F | A | A | | | | | | | | | | |
| Approach Delay (s) | 12.1 | 54.0 | 4.0 | 0.2 | | | | | | | | | | |
| Approach LOS | B | F | | | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | | | |
| Average Delay | | | 8.9 | | | | | | | | | | | |
| Intersection Capacity Utilization | | | 57.8% | ICU Level of Service | B | | | | | | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | | | |













HCM Unsignalized Intersection Capacity Analysis
 18: Sharpsburg Drive & Gemini Drive

12/15/2011

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | ↗ | | ↕ | |
| Volume (veh/h) | 20 | 77 | 31 | 32 | 26 | 18 | 46 | 31 | 46 | 15 | 31 | 7 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| 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 |
| Hourly flow rate (vph) | 22 | 84 | 34 | 35 | 28 | 20 | 50 | 34 | 50 | 16 | 34 | 8 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | None | | | | | None | | | | | | |
| Median storage (veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 48 | 117 | | | | 276 | | 261 | 101 | 318 | 268 | 38 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 48 | 117 | | | | 276 | | 261 | 101 | 318 | 268 | 38 |
| tC, single (s) | 4.1 | 4.1 | | | | 7.1 | | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| IF (s) | 2.2 | 2.2 | | | | 3.5 | | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 99 | 98 | | | | 92 | | 95 | 95 | 97 | 95 | 99 |
| cM capacity (veh/h) | 1559 | 1471 | | | | 625 | | 619 | 955 | 560 | 614 | 1034 |
| Direction, Lane # | EB 1 | WB 1 | NB 1 | NB 2 | SB 1 | | | | | | | |
| Volume Total | 139 | 83 | 84 | 50 | 58 | | | | | | | |
| Volume Left | 22 | 35 | 50 | 0 | 16 | | | | | | | |
| Volume Right | 34 | 20 | 0 | 50 | 8 | | | | | | | |
| cSH | 1559 | 1471 | 623 | 955 | 630 | | | | | | | |
| Volume to Capacity | 0.01 | 0.02 | 0.13 | 0.05 | 0.09 | | | | | | | |
| Queue Length 95th (ft) | 1 | 2 | 12 | 4 | 8 | | | | | | | |
| Control Delay (s) | 1.2 | 3.3 | 11.7 | 9.0 | 11.3 | | | | | | | |
| Lane LOS | A | A | B | A | B | | | | | | | |
| Approach Delay (s) | 1.2 | 3.3 | 10.7 | | 11.3 | | | | | | | |
| Approach LOS | | | B | | B | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Average Delay | | | 6.1 | | | | | | | | | |
| Intersection Capacity Utilization | | | 25.5% | | ICU Level of Service | | | | A | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |













HCM Unsignalized Intersection Capacity Analysis
 12: McLean Drive & Sharpsburg Drive

12/15/2011

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Right Turn Channelized | | | | | | | | | | | | |
| Volume (veh/h) | 2 | 59 | 2 | 8 | 80 | 7 | 5 | 34 | 11 | 2 | 5 | 5 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Hourly flow rate (vph) | 2 | 63 | 2 | 9 | 85 | 7 | 5 | 36 | 12 | 2 | 5 | 5 |
| Approach Volume (veh/h) | | 67 | | | 101 | | | 53 | | | 13 | |
| Crossing Volume (veh/h) | | 16 | | | 44 | | | 67 | | | 99 | |
| High Capacity (veh/h) | | 1368 | | | 1338 | | | 1314 | | | 1282 | |
| High v/c (veh/h) | | 0.05 | | | 0.08 | | | 0.04 | | | 0.01 | |
| Low Capacity (veh/h) | | 1146 | | | 1119 | | | 1097 | | | 1068 | |
| Low v/c (veh/h) | | 0.06 | | | 0.09 | | | 0.05 | | | 0.01 | |
| Intersection Summary | | | | | | | | | | | | |
| Maximum v/c High | | | 0.08 | | | | | | | | | |
| Maximum v/c Low | | | 0.09 | | | | | | | | | |
| Intersection Capacity Utilization | | | 18.2% | | ICU Level of Service | | | | | | A | |

HCM Unsignalized Intersection Capacity Analysis
 21: North Star Drive & Jupiter Drive/Sharpsburg Drive




















12/21/2011

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Volume (vph) | 3 | 9 | 87 | 68 | 9 | 2 | 194 | 228 | 104 | 3 | 138 | 5 |
| Peak Hour Factor | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 |
| Hourly flow rate (vph) | 3 | 10 | 100 | 78 | 10 | 2 | 223 | 262 | 120 | 3 | 159 | 6 |
| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 114 | 91 | 605 | 168 | | | | | | | | |
| Volume Left (vph) | 3 | 78 | 223 | 3 | | | | | | | | |
| Volume Right (vph) | 100 | 2 | 120 | 6 | | | | | | | | |
| Hadj (s) | -0.49 | 0.19 | -0.01 | 0.02 | | | | | | | | |
| Departure Headway (s) | 5.5 | 6.2 | 4.8 | 5.3 | | | | | | | | |
| Degree Utilization, x | 0.17 | 0.16 | 0.80 | 0.25 | | | | | | | | |
| Capacity (veh/h) | 585 | 521 | 742 | 628 | | | | | | | | |
| Control Delay (s) | 9.7 | 10.4 | 23.8 | 10.1 | | | | | | | | |
| Approach Delay (s) | 9.7 | 10.4 | 23.8 | 10.1 | | | | | | | | |
| Approach LOS | A | B | C | B | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | | | 18.6 | | | | | | | | | |
| HCM Level of Service | | | C | | | | | | | | | |
| Intersection Capacity Utilization | | | 57.8% | ICU Level of Service | B | | | | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis

2: McLean Drive & Cottage Grove Road

1/5/2012

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | | |  | | |  |  |
| Volume (veh/h) | 41 | 981 | 116 | 60 | 721 | 10 | 61 | 9 | 48 | 5 | 3 | 29 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Hourly flow rate (vph) | 44 | 1044 | 123 | 64 | 767 | 11 | 65 | 10 | 51 | 5 | 3 | 31 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | Raised | | | Raised | | | | | | | |
| Median storage (veh) | | 1 | | | 1 | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 778 | | | 1167 | | | 1736 | 2098 | 584 | 1565 | 2154 | 389 |
| vC1, stage 1 conf vol | | | | | | | 1193 | 1193 | | 900 | 900 | |
| vC2, stage 2 conf vol | | | | | | | 544 | 905 | | 665 | 1254 | |
| vCu, unblocked vol | 778 | | | 1167 | | | 1736 | 2098 | 584 | 1565 | 2154 | 389 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.5 | 6.5 | 6.9 | 7.5 | 6.5 | 6.9 |
| tC, 2 stage (s) | | | | | | | 6.5 | 5.5 | | 6.5 | 5.5 | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 95 | | | 89 | | | 51 | 93 | 89 | 96 | 97 | 95 |
| cM capacity (veh/h) | 835 | | | 594 | | | 132 | 137 | 455 | 149 | 115 | 610 |
| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | WB 3 | NB 1 | NB 2 | SB 1 | SB 2 | | |
| Volume Total | 44 | 696 | 471 | 64 | 511 | 266 | 70 | 56 | 7 | 32 | | |
| Volume Left | 44 | 0 | 0 | 64 | 0 | 0 | 65 | 0 | 5 | 0 | | |
| Volume Right | 0 | 0 | 123 | 0 | 0 | 11 | 0 | 51 | 0 | 31 | | |
| cSH | 835 | 1700 | 1700 | 594 | 1700 | 1700 | 132 | 380 | 139 | 503 | | |
| Volume to Capacity | 0.05 | 0.41 | 0.28 | 0.11 | 0.30 | 0.16 | 0.53 | 0.15 | 0.05 | 0.06 | | |
| Queue Length 95th (ft) | 4 | 0 | 0 | 9 | 0 | 0 | 63 | 13 | 4 | 5 | | |
| Control Delay (s) | 9.6 | 0.0 | 0.0 | 11.8 | 0.0 | 0.0 | 59.1 | 16.1 | 32.2 | 12.6 | | |
| Lane LOS | A | | | B | | | F | C | D | B | | |
| Approach Delay (s) | 0.3 | | | 0.9 | | | 39.9 | | 16.1 | | | |
| Approach LOS | | | | | | | E | | C | | | |
| Intersection Summary | | | | | | | | | | | | |
| Average Delay | | | 3.1 | | | | | | | | | |
| Intersection Capacity Utilization | | | 54.2% | | | | ICU Level of Service | | A | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |

Intersection: 1: Cottage Grove Rd. & North Star Drive

| Movement | EB | EB | EB | WB | WB | WB | NB | SB | SB |
|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Directions Served | L | T | TR | LT | T | R | LTR | LT | R |
| Maximum Queue (ft) | 199 | 497 | 391 | 298 | 304 | 175 | 178 | 129 | 136 |
| Average Queue (ft) | 152 | 128 | 106 | 149 | 167 | 55 | 80 | 48 | 57 |
| 95th Queue (ft) | 220 | 320 | 244 | 243 | 260 | 144 | 142 | 100 | 109 |
| Link Distance (ft) | | 591 | 591 | 401 | 401 | | 206 | 287 | |
| Upstream Blk Time (%) | | 0 | 0 | | | | 0 | | |
| Queuing Penalty (veh) | | 0 | 0 | | | | 0 | | |
| Storage Bay Dist (ft) | 100 | | | | | 75 | | | 100 |
| Storage Blk Time (%) | 25 | 2 | | | 36 | 1 | | 1 | 1 |
| Queuing Penalty (veh) | 131 | 8 | | | 30 | 2 | | 3 | 1 |

Intersection: 2: McLean Drive & Cottage Grove Road

| Movement | EB | EB | EB | WB | WB | WB | NB | NB | SB | SB |
|-----------------------|-----|-----|-----|-----|------|------|-----|-----|-----|-----|
| Directions Served | L | T | TR | L | T | TR | LT | TR | LT | TR |
| Maximum Queue (ft) | 73 | 185 | 222 | 84 | 154 | 186 | 112 | 81 | 33 | 66 |
| Average Queue (ft) | 24 | 66 | 93 | 29 | 31 | 55 | 44 | 32 | 5 | 17 |
| 95th Queue (ft) | 53 | 146 | 174 | 64 | 96 | 126 | 91 | 63 | 22 | 48 |
| Link Distance (ft) | | 292 | 292 | | 1156 | 1156 | 394 | 394 | 721 | 721 |
| Upstream Blk Time (%) | | | 0 | | | | | | | |
| Queuing Penalty (veh) | | | 0 | | | | | | | |
| Storage Bay Dist (ft) | 125 | | | 200 | | | | | | |
| Storage Blk Time (%) | 0 | 1 | | | 0 | | | | | |
| Queuing Penalty (veh) | 0 | 0 | | | 0 | | | | | |

Intersection: 12: McLean Drive & Sharpsburg Drive

| Movement | EB | WB | NB | SB |
|-----------------------|-----|-----|-----|-----|
| Directions Served | LTR | LTR | LTR | LTR |
| Maximum Queue (ft) | 6 | 38 | 24 | 6 |
| Average Queue (ft) | 0 | 2 | 1 | 0 |
| 95th Queue (ft) | 5 | 12 | 12 | 4 |
| Link Distance (ft) | 759 | 294 | 721 | 164 |
| Upstream Blk Time (%) | | | | |
| Queuing Penalty (veh) | | | | |
| Storage Bay Dist (ft) | | | | |
| Storage Blk Time (%) | | | | |
| Queuing Penalty (veh) | | | | |

Intersection: 18: Sharpsburg Drive & Gemini Drive

| Movement | EB | WB | NB | NB | SB |
|-----------------------|-----|-----|-----|-----|-----|
| Directions Served | LTR | LTR | LT | R | LTR |
| Maximum Queue (ft) | 18 | 32 | 62 | 58 | 49 |
| Average Queue (ft) | 0 | 5 | 31 | 27 | 25 |
| 95th Queue (ft) | 6 | 24 | 54 | 51 | 50 |
| Link Distance (ft) | 352 | 417 | 167 | 167 | 280 |
| Upstream Blk Time (%) | | | | | |
| Queuing Penalty (veh) | | | | | |
| Storage Bay Dist (ft) | | | | | |
| Storage Blk Time (%) | | | | | |
| Queuing Penalty (veh) | | | | | |

Intersection: 21: North Star Drive & Jupiter Drive/Sharpsburg Drive

| Movement | EB | WB | NB | SB |
|-----------------------|-----|-----|-----|-----|
| Directions Served | LTR | LTR | LTR | LTR |
| Maximum Queue (ft) | 57 | 51 | 198 | 83 |
| Average Queue (ft) | 35 | 29 | 107 | 41 |
| 95th Queue (ft) | 55 | 47 | 169 | 62 |
| Link Distance (ft) | 225 | 352 | 287 | 272 |
| Upstream Blk Time (%) | | | | |
| Queuing Penalty (veh) | | | | |
| Storage Bay Dist (ft) | | | | |
| Storage Blk Time (%) | | | | |
| Queuing Penalty (veh) | | | | |

Intersection: 23: Cottage Grove Rd./Cottage Grove Road & grocery driveway

| Movement | EB | WB | SB |
|-----------------------|-----|-----|-----|
| Directions Served | L | R | R |
| Maximum Queue (ft) | 94 | 21 | 32 |
| Average Queue (ft) | 36 | 1 | 11 |
| 95th Queue (ft) | 71 | 10 | 30 |
| Link Distance (ft) | | | 158 |
| Upstream Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |
| Storage Bay Dist (ft) | 200 | 100 | |
| Storage Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |

Intersection: 25: Cottage Grove Road & Truck Access

| Movement | WB | WB |
|-----------------------|-----|-----|
| Directions Served | T | T |
| Maximum Queue (ft) | 10 | 10 |
| Average Queue (ft) | 0 | 1 |
| 95th Queue (ft) | 8 | 10 |
| Link Distance (ft) | 292 | 292 |
| Upstream Blk Time (%) | | |
| Queuing Penalty (veh) | | |
| Storage Bay Dist (ft) | | |
| Storage Blk Time (%) | | |
| Queuing Penalty (veh) | | |

Intersection: 27: Cottage Grove Rd. & new public street

| Movement | EB | WB | WB | SB | SB |
|-----------------------|-----|-----|-----|-----|-----|
| Directions Served | L | T | R | L | R |
| Maximum Queue (ft) | 117 | 4 | 9 | 293 | 267 |
| Average Queue (ft) | 46 | 0 | 0 | 191 | 104 |
| 95th Queue (ft) | 86 | 3 | 6 | 343 | 289 |
| Link Distance (ft) | | 380 | | 279 | 279 |
| Upstream Blk Time (%) | | | | 29 | 13 |
| Queuing Penalty (veh) | | | | 0 | 0 |
| Storage Bay Dist (ft) | 200 | | 100 | | |
| Storage Blk Time (%) | | | | | |
| Queuing Penalty (veh) | | | | | |

Network Summary

| |
|-----------------------------------|
| Network wide Queuing Penalty: 176 |
|-----------------------------------|