ITEM ORD 00-04734

VILLAGE OF DOWNERS GROVE
REPORT FOR THE VILLAGE COUNCIL MEETING
JANUARY 10, 2012 AGENDA

SUBJECT:	TYPE:	SUBMITTED BY:
Prince Street closure - Right-of-Way Vacation	Resolution ✓ Ordinance Motion Discussion Only	Tom Dabareiner, AICP Community Development Director

SYNOPSIS
An ordinance has been prepared vacating the 66-foot wide by 600-foot long portion of the Prince Street right-of-way located between Grant Street on the south, Sherman Street on the north and immediately adjacent to and west of the Downers Grove North High School properties. Approval of the vacation requires five affirmative votes.

STRATEGIC PLAN ALIGNMENT
The goals for 2011 to 2018 include *Exceptional Municipal Services.*

FISCAL IMPACT
Per the Village Council policy, the Village Council determines the amount and type of compensation, if any, that is required. Staff recommends the Village Council waive the $147,722 fair market value for the right-of-way.

The fair market value is based on the latest assessment of land adjacent to the right-of-way. The portion of the right-of-way which would be encumbered by an easement would be discounted while the portion of the right-of-way that is not encumbered would be fully valued. The table below summarizes the estimated value:

Portion of right-of-way encumbered by a public drainage, utility and utility access easement

Adjacent Property Address	Square Foot Land Value	SF of ROW to be vacated	Estimated Value	Encumbered Value
4434 Prince Street	$ 7.44	29,470	$ 219,256.80	$ 72,355

Portion of right-of-way not encumbered with an easement

Adjacent Property Address	Square Foot Land Value	SF of ROW to be vacated	Estimated Value
4434 Prince Street	$ 7.44	10,130	$ 75,367

Total value of street to be vacated	$ 147,722

UPDATE & RECOMMENDATION

This item was discussed at the January 3, 2012 Village Council meeting. Based on Council discussion on the parking lot operations, staff requested that District 99 officials provide additional information on bus operations on the proposed parking lot on the west side of Main Street. The District's response is attached.

Additionally, in response to Council discussion on design and impacts of proposed future parking improvements on the east side of Main Street, staff has prepared the attached list of items that will be reviewed prior to the issuance of permits.

Staff recommends approval on the January 10, 2012 Active Agenda. Approval of the vacation requires five affirmative votes.

BACKGROUND

Community High School District 99 (CHSD99) is requesting that the Village vacate a 66-foot wide by 600-foot long portion of the Prince Street right-of-way located between Grant Street on the south and Sherman Street on the north. The vacation would result in the closure of this portion of Prince Street. The street is immediately adjacent to the west side of the Downers Grove North High School property. The right-of-way is improved with a 28-foot wide street, a sidewalk on the east side and street trees on both sides. The petitioner owns all six parcels that abut the right-of-way proposed to be vacated.

The proposed street closure and vacation would enable CHSD99 to undertake a comprehensive redevelopment of the area. The request would allow CHSD99 to construct a new parking lot, a plaza with a bathroom building and canopy and a walkway running north and south from Grant Street to Sherman Street.

Based on the Village's Right-of-Way Vacation Policy (Resolution #2003-58), staff contacted the utility companies and outside public agencies (including the Police, Fire and Public Works Departments, School Districts, Sanitary District and Downers Grove Park District) to determine if any rights to the public right-of-way should be retained. The right-of-way contains gas, sanitary sewer, storm sewer and water mains. Primary cable and electric service lines are located within the Grant and Sherman Street rights-of-way and are not affected by the proposed vacation.

Staff recommends retaining a public drainage, utility and utility access easement over a 48-foot wide by 600-foot long portion of the right-of-way being vacated. Additionally, the easements will cover portions of the sanitary sewer, storm sewer and water mains that run to the east and connect to mains within the Main Street right-of-way. The easement provisions will provide adequate space for any future utility maintenance and needs. Except for a driveway, walkway, landscaping and fencing, future construction within the easement will be prohibited. The petitioners have been informed of this requirement and are not objecting.

A traffic impact study was completed due to the proposed closure of Prince Street. The study found that the proposed street closure would not result in significant impacts to the adjacent road network. Currently, the street is almost exclusively used for school related traffic. The study found non-school related traffic destined

for Ogden Avenue typically uses Saratoga Avenue due to the presence of a traffic light at that intersection. Staff reviewed the traffic impact study and concurred with its findings.

Staff believes the proposed street closure is consistent with the Comprehensive Plan. The Comprehensive Plan recommends that the Village 'promote the continued operation and improvement of both public and private school facilities, ensure they do not impact residential neighborhoods, and cooperate with the various organizations to maintain high quality school sites and facilities.' The proposed street closure meets this recommendation by providing the School District an opportunity to improve their facilities in a high quality manner while eliminating on-street bus stacking and not negatively impacting the adjacent road system in the neighborhood.

The Plan Commission considered the petition at their November 7, 2011 meeting. A number of residents spoke with concerns regarding traffic operations and the thoroughness of the original study. These concerns included:

1. Congestion at the intersections of Grant and Prince Streets and Grant Street and Saratoga Avenue;
2. Parking on Prince Street south of Grant Street; and
3. Overflow bus and vehicle parking on Saratoga Avenue.

The petitioner completed an additional traffic study on November 29, 2011 to examine resident concerns. The study found:

1. The highest intersection traffic volumes (Grant Street and Saratoga Avenue, Grant and Prince Streets, Sherman Street and Saratoga Avenue and Sherman and Prince Streets) occur during the morning peak hour (7:30-8:30 am), the evening peak hour (5:30-6:30 pm) had the second highest intersection volumes while the afternoon peak hour (3:00-4:00 pm) had the lowest intersection traffic volumes. The study found the morning peak hour experienced 1,117 vehicles within the four intersections, which is 169 more vehicles than the evening peak hour and 219 more vehicles than the afternoon peak hour. The study found all intersections operate with minimal delay during these peak hours.
2. The study also observed parents circling the block and parking in no parking/standing zones while dropping-off or picking up students. While this activity did not result in traffic delays, it did result in confusing and irregular movements, including U-turns within the intersection of Grant and Prince Streets. With the addition of a proposed parking lot immediately north of Grant Street, it is anticipated that student pick-up and drop-off will take place within the parking lot and eliminate much of the on-street confusion.
3. With the addition of the parking lot it is anticipated that the overflow parking that is observed on Saratoga Avenue during after-school events will be relocated to the parking lot.

Staff believes the additional traffic counts completed are consistent with the original study findings. Staff will monitor and review parking, access and intersection controls in response to resident concerns to determine if adjustments to the development are necessary.

The Plan Commission found the proposed closure of Prince Street and right-of-way vacation is consistent with the Village's Right-of-Way Vacation Policy (Resolution #2003-58), the Zoning Ordinance and Comprehensive Plan. Based on their analysis, the Plan Commission unanimously recommended approval of the right-of-way vacation. Staff concurs with the Plan Commission's recommendation.

ATTACHMENTS

Aerial Map
Ordinance
Plat of Vacation
Staff Report with attachments dated November 7, 2011
Minutes of the Plan Commission Hearing dated November 7, 2011
Neighborhood comments from October 27, 2011 CHSD99 neighborhood meeting
Revised easement sketch dated November 7, 2011
Memo - traffic impact study addendum dated November 30, 2011

V I L L A G E O F D O W N E R S G R O V E

C O U N C I L A C T I O N S U M M A R Y

INITIATED: Applicant (Name) **DATE:** January 10, 2012

RECOMMENDATION FROM: Plan Commission (Board or Department) **FILE REF:** PC-38-11

NATURE OF ACTION:

- X Ordinance
- __ Resolution
- __ Motion
- __ Other

STEPS NEEDED TO IMPLEMENT ACTION:

Motion to Adopt "AN ORDINANCE VACATING A CERTAIN PORTION OF THE PRINCE STREET RIGHT-OF-WAY LOCATED IMMEDIATELY WEST OF AND ADJACENT TO DOWNERS GROVE NORTH HIGH SCHOOL IN THE VILLAGE OF DOWNERS GROVE", as presented.

SUMMARY OF ITEM:

Adoption of the attached ordinance will vacate a certain portion of a 66-foot wide by 600-foot long portion of the Prince Street right-of-way located between Grant Street on the south and Sherman Street on the north and immediately west of and adjacent to Downers Grove North High School property.

RECORD OF ACTION TAKEN:

_____

_____

_____

ORDINANCE NO. _____

AN ORDINANCE VACATING A CERTAIN PORTION OF THE PRINCE STREET RIGHT-OF-WAY LOCATED IMMEDIATELY WEST OF AND ADJACENT TO DOWNERS GROVE NORTH HIGH SCHOOL IN THE VILLAGE OF DOWNERS GROVE

WHEREAS, it has been determined by the Council of the Village of Downers Grove in DuPage County, Illinois, that it is in the public interest to vacate a certain portion of a 66-foot wide by 600-foot long portion of the Prince Street right-of-way located between Grant Street on the south and Sherman Street on the north and immediately west of and adjacent to Downers Grove North High School property in Downers Grove, Illinois, in said Village hereinafter more particularly described; and

WHEREAS, there are certain public service facilities situated in said portion of said right-of-way, and the Village Council has determined that it is necessary and in the public interest to reserve such rights-of-way and easements as are in the judgment of the Council necessary or desirable for continuing public service by means of those facilities and for the maintenance, renewal and reconstruction thereof; and

WHEREAS, the required public notice has been given and a public hearing respecting said vacation has been conducted in accordance with applicable law; and

WHEREAS, the Village Council, after due investigation and consideration, has determined that the nature and extent of the public use and the public interest to be served is such as to warrant the vacation of said portion of said right-of-way.

NOW, THEREFORE, BE IT ORDAINED by the Council of the Village of Downers Grove, in DuPage County, Illinois, as follows:

SECTION 1. That the following described property, to wit:

A 66-foot wide by 600-foot long portion of the Prince Street right-of-way located between Grant Street on the south and Sherman Street on the north and immediately west of and adjacent to Downers Grove North High School

Described as:

That part of the southwest quarter of Section 5, Township 38 North, Range 11, East of the Third Principal Meridian, described as follows: that part of Prince Street as heretofore dedicated in E.H. Prince and Company's Addition to Downers Grove according to the plat thereof recorded September 30, 1891 as Document Number 43600 described as beginning at the northeast corner of Lot 1 in Block 30 in said E.H. Prince and Company's Addition; thence along the easterly extension of the north line of said Lot 1, a distance of 66 feet to the northwest corner of Lot 24 in Block 29 in said E.H. Prince and Company's Addition; thence south along the west line of said Block 29, a distance of 600 feet to the southwest corner of Lot 13 in said Block 29; thence along the westerly extension of the south line of said Lot 13, a distance of 66 feet to the southeast corner of Lot 12 in said Block 30; then north along the east line of said Block 30, a distance of 600 feet to the point of beginning, in DuPage County, Illinois.

(hereinafter referred to as the "Prince Street Vacated Right-of-Way"), is hereby vacated, and that it is hereby declared that the same is no longer required for public use and that the public interest will be served by such vacation.

SECTION 2. An easement is hereby reserved for and granted to the Village of Downers Grove, County of DuPage, and to utility companies operating under franchise from the said Village including, but not limited to AT&T, Commonwealth Edison Company, Comcast, the Downers Grove Sanitary District and their

respective successors and assigns jointly and severally, over all areas marked "public utilities easement reservation" on the plat of vacation of the vacated street right-of-way as described herein for the perpetual right, privilege and authority to construct, reconstruct, repair, inspect, maintain, and operate various utility transmission and distribution systems and community antenna television systems and all necessary appliances and other structures and appurtenances as may be deemed necessary by said Village and for any and all municipal purposes, over, upon, along, under and through said indicated easements, together with the right of access across the property to do any of the above work. The right is also granted to cut down, trim or remove any trees, shrubs, or other plants that interfere with the operation of the utilities. No permanent buildings or structures shall be placed on said easements, but same may be used for gardens, shrubs, landscaping, driveways, fences ("Improvements") and other purposes that do not then or later interfere with the aforesaid uses and rights. Any installations of Improvements placed in the easement shall be at the property owner's sole expense and the Village shall not be responsible for repairing, maintaining or replacing any Improvements. The property owners shall indemnify and hold harmless the Village, its agents, officers and employees against all injuries, deaths, losses, damages, claims, suits, judgments, costs and expenses which may arise directly or indirectly from the installation of any and Improvements in the easement area. The Village shall not be responsible or liable for any damage incurred to the Improvements during or as a result of any repair, maintenance, operation, use or installation of equipment or facilities within the easement area. All installations of Improvements shall be subject to the ordinances of the Village of Downers Grove. Easements are hereby reserved for and granted to the Village of Downers Grove and other governmental authorities having jurisdiction of the land over the entire easement area for ingress, egress and the performance of any and all municipal and other governmental services.

SECTION 3. This vacation shall be subject to the following conditions:

1. The vacation shall substantially conform to the staff report dated November 7, 2011.

2. Prior to Village Council consideration, a Mylar copy of the Final Plat of Vacation indicating the required easements per the revised attached easement sketch identifying a 46-foot wide easement shall be prepared and submitted to the Village.

3. A mountable curb shall be provided onto the plaza at the south end of the vacated right-of-way.

4. The 16-foot wide walkway shall be redesigned to provide a 20-foot width that can accommodate an 80,000 pound emergency vehicle.

5. The northern gate shall include a lockbox and be designed such that a single individual can operate the gate.

SECTION 4. That the Mayor and Clerk of the Village of Downers Grove are hereby authorized to sign the plat of vacation of the Prince Street Vacated Right-of-Way described herein.

SECTION 5. That a certified copy of this ordinance and an accurate Plat of the Prince Street Vacated Right-of-Way, which specifically includes the easement language contained in Section 2 of this ordinance, shall be filed for record by the Clerk of the Village of Downers Grove in the Office of the Recorder of Deeds, DuPage County, Illinois, at the Petitioner's expense.

SECTION 6. That all ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.

SECTION 7. That this ordinance shall be in full force and effect from and after its passage and publication in pamphlet form as provided by law.

_____
Mayor

Passed:
Published:
Attest: _____
Village Clerk

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Community HIGH SCHOOL District 99

Administrative Service Center • 6301 Springside Avenue • Downers Grove, IL 60516-2488 • 630-795-7100 • Fax 630-795-7199 • www.csd99.org

January 5, 2012

Mayor Martin Tully & Village Council
Village of Downers Grove
801 Burlington Avenue
Downers Grove, IL 60516

Dear Mayor Tully and Village Council:

I would like to sincerely thank you for considering District 99's request to vacate Prince Street between Grant and Sherman to enable the school district to facilitate the development of the west side of the North High School campus.

North High Associate Principal Chuck Hiscock made a presentation about parking, bus loading and unloading, and parent drop off and pickup as part of the school district's presentation on January 3. I asked Mr. Hiscock to render his remarks to writing; I have attached a copy for your review. The memo also contains responses to several questions/areas for clarification as requested by Planning Manager Jeff O'Brien.

We respect and appreciate the careful manner in which the Mayor and Village Council have considered our request. We hope the attached information provides greater assurance that we planned this project and its outcomes carefully and with the needs of our students at the forefront.

Sincerely,

Dr. Mark McDonald
Superintendent

cc: Marty Schack, Director of Physical Plant
Board of Education

North High School • 4436 Main Street • Downers Grove, IL 60515-2867 • 630-795-8400 • Fax 630-795-8499 • www.csd99.org/north
South High School • 1436 Norfolk Street • Downers Grove, IL 60516-2632 • 630-795-8500 • Fax 630-795-8599 • www.csd99.org/south

Community High School District #99
Downers Grove North High School
Associate Principal

TO: **Dr. Mark McDonald**

FROM: **Chuck Hiscock**

DATE: **January 5, 2012**

RE: **Operational Plan for Bus and Traffic Circulation at Downers Grove North High School Related to Phase One Master Site Plan Improvements.**

In the interest of clarifying our site plan for the Council members, I've been asked to provide a written summary of Tuesday night's presentation. Hopefully, the comments below will clarify how we plan to manage the site expansion.

As I mentioned Tuesday night, I've been the Associate Principal for Operations at North High School for the past 6 years, and have never been comfortable with the way we load our busses. In my mind, the current situation on Prince Street, which is realistically the only option we have for bus access, presents serious safety concerns for our students. The goal of our Master Site plan, in addition to improving and expanding our facilities, has always been to increase student safety.

During this process we've tried to be very sensitive to the needs of all who might be affected by these improvements. We've listened to students, staff, and community members and have tried to come up with the best plan possible, keeping in mind that our primary concern must be for the safety of our students and for the needs of our program. Some of the issues raised during the process have been:

- Student Safety during bus pick-ups in the afternoon.
- Students walking a long distance to get to busses that are parked a significant distance from the exit of the school, sometimes in the rain, snow, or cold.
- Busses idling on Prince Street for long periods of time
- Closing Prince Street during the afternoons to accommodate those busses.
- Large numbers of cars parking and picking up students after athletic practices, or dropping off students for clubs, rentals, and other activities.
- Busses parking on Prince Street during weekend athletic/activity events.

I will address each of these issues, as well as how we plan to address them moving forward.

Busses

Current Situation: Currently we have 19 busses that pick-up and drop off students on Prince Street. In the morning there is not a significant problem because the busses come at staggered times and they do not need to idle or block traffic. In the afternoon, the entire street is blocked between approximately 3:05-3:35.

All of our busses arrive on and park on Prince Street. In the afternoon, 16 of them park on the east side of the street facing north, while 3 park on the west side of the street facing south. This creates a situation where, in order to get to the student parking lot, busses, or their homes, many of our students walk on the street while busses try to navigate to their assigned spaces. Despite our having deans, the police counselor, full time student supervisor, and I outside to help direct busses and students, this remains a very unsafe situation.

When the busses are dismissed at approximately 3:35, all 19 of them proceed to Saratoga via Sherman or Grant streets. *All of our busses currently arrive on Prince Street and leave on Saratoga.*

Proposed Improvements: Our proposed plan eliminates busses stopping or idling on Prince Street. Busses will arrive going northbound on Prince and will enter our new parking lot using the entrance were the proposed vacation of the street begins. In the morning, the busses will arrive individually, drop students off at the newly created shelter, and leave immediately using the Saratoga exit. In the afternoon, busses will pull into clearly marked stalls and will wait until school is dismissed. Once school is out, students will be able to get to the busses without crossing a public street or weaving in and out of busses. When busses are released, they will exit the lot via Saratoga. This plan will have a number of benefits, including:

- Improving student safety
- Eliminating long walks for students to get to a bus
- Removing idling busses in front of homes on Prince street
- Re-opening Prince Street during the afternoons.

At an open house earlier this year neighbors expressed concern that bus traffic on Prince, Grant, and Saratoga Streets would increase. *This plan will add no additional bus traffic to either Prince Street or Saratoga* and will actually decrease the amount of bus traffic on Grant and Sherman Streets. Currently we have 19 busses arriving on Prince and leaving on Saratoga. Under the new plan we will still have 19 busses arriving and leaving on each street.

In the past we've struggled with busses from other schools parking on the street during tournaments and competitions. The new lot provides clearly marked bus stalls that can be used to keep the busses off of the street. During after-hours and weekend events, the Athletics/Activities offices will provide clear guidelines to participating schools indicating that busses will park in the West lot during events. In addition, supervision staff will be expected to help direct busses and cars to the proper parking areas.

Pick-ups:

Current Situation: During our open house earlier in the fall, neighbors expressed concern that numerous cars "circle" the neighborhood or park on Prince Street to pick up their children after athletic practices or events. Similarly, they pointed out that parents dropping off children for clubs and rentals after regular school hours can create a nuisance. This situation is exacerbated by our west parking lot being located too far away to be a practical place for student pick-up or drop-off.

Proposed Solution: We feel that our plan addresses after-hours concerns by creating a drop-off/pick up area that is easily accessible to kids. The pick-up area will be close to the gym, pool, and stadium, which is where most after-school activities take place, and will also provide shelter for students in case of rain or other inclement weather. The space is also large enough to accommodate parents that arrive early, giving them a place to park rather than idling on the street.

Communications with our parents and other constituents will begin in the summer, and will clearly outline our expectations for revised pick-up and drop-off procedures. In addition, our coaches and security staff will work with athletes and parents to insure that expectations are clear. For example, during mandatory meetings at the start of each athletic/activity season, pick-up and drop-off procedures will be reviewed and clear expectations would be established. Coaches will initially insure that students and parents are in compliance, with the assistance of our evening supervisor and our police liaison officer. It is our belief that the newly established pick-up area will be an attractive one for parents and students

The same rules that are in place for after-hours pick up and drop off would apply for weekend rentals, practices or events. Expectations will be communicated during the rental process.

Additional Considerations:

Some of the council expressed concern about the logistics of parent drop-off/pick-up in the west lot during times when busses are present. As I mentioned during the question/answer period on Tuesday night, this is an area that we have considered at length. As mentioned earlier, there is no real concern in the morning because busses arrive individually and leave immediately. Parents dropping off students would follow the same procedure. This would allow a smooth flow of traffic and, since students would never be exposed to traffic, would insure student safety. The afternoon period would be a bit more problematic because more busses/students would be present at once as opposed to arriving individually. It is difficult to predict how traffic in this area will behave as we have always closed Prince Street to vehicular traffic in the afternoon. However we feel there are a few options for addressing this issue:

Option 1: This option would maintain student pick-up/drop-off in the new west lot and control bus, student, and vehicular traffic using the 3 deans, police officer, and full time student supervisor. Separate bus and car lanes would need to be marked and signage provided. Since the proposed site plan includes creating a dedicated drop-off/pick-up area on the east side of Main Street, and pick-up/drop-off will still be available on Forest Street, we do not anticipate Prince Street, because of bus traffic, being a particularly attractive place for parents to pick up their students, making this a viable option.

Option 2: Currently, Prince Street is marked with signs indicating a "No Stopping, No Standing, No Parking" zone near the school. These signs could be removed and pick-ups could be allowed during the afternoon hours. Pick up on a public street (Forest) is currently allowed, so this would not be without precedent. Again, we do not anticipate a tremendous amount of activity in this area, so this might be a viable option. However, there is the possibility that this approach could create confusion for our parents, and we would again have to deal with cars stopped on Prince Street. For this reason, this would be our second option.

Option 3: A third option involves maintaining the "No Stopping, No Standing, No Parking" restrictions on Prince Street and forbid student pick-ups on the street in the afternoon. This is a viable option because we are adding an additional pick-up/drop-off area east of Main Street and are maintaining accessibility on Forest Street. Again, a down-side here might be confusion on the part of our parents.

Communication and Implementation: The scope of this project will include clear signage, lane markings, and other traffic control elements that make it clear to our community what proper traffic flow and parking protocols to follow. We will support the changes with frequent communications via letters home in our registration materials, e-mail notifications, posts on our website, and reminders during open houses and orientations, communications from our Athletics and Activities departments, and meetings with our student body. In addition, we will work closely with our police liaison, particularly at the start of the year, to insure a smooth transition. As with any major change, we will review frequently and address any unforeseen problems in a timely manner.

We believe that this plan addresses many of the concerns expressed by students, staff, parents, and neighbors. In fact, we're convinced the traffic situation around North High School will dramatically improve as a result of this process. As a result, we are confident that student safety will improve as well. I would be more than happy to address any questions you might have in more detail, so please feel free to contact me.

Chuck Hiscock
Associate Principal
Downers Grove North High School
(630) 795-8404
chiscock@csd99.org

List of Items to be Reviewed Prior to Permit Issuance

In response to Council discussion on design and impacts of proposed future parking improvements on the east side of Main Street, staff has compiled a list of items that will be reviewed prior to the issuance of permits for improvements. Staff has not received the plans for this parking lot.

- Parking Lot access points (vehicular and pedestrian)
- Size of access points
- Pedestrian circulation (in and around parking lot)
- Vehicular circulation (in and around parking lot)
- Control of pedestrian crossings on Main Street Fencing (height, location, appearance and openings)
- Screening (Landscaping and fencing)
- Perimeter and internal landscaping
- Impacts of increased impervious area on surrounding neighbors with regard to stormwater detention
- Setbacks
- Number of parking spaces
- Dimensions of drive aisles, parking spaces, walk ways, etc.
- Utility connections
- Parking lot lighting
- Effects of headlights on homes on the east side of Highland
- Stormwater water run-off water quality
- Impacts of parking lot on adjacent business (funeral home) & institutional (Gloria Dei Church) operations, specifically identifying conflicts
- Impacts of parking lot on surrounding residential properties
- Neighborhood input sought and included in design
- Impact on parkway trees
- Impact to public streets, sidewalks, curb and gutter Impact of increased pedestrian crossings at Main and Grant (timing of the traffic signal)
- Opportunities for shared parking with surrounding uses (e.g., funeral home and church)
- Increased garbage generation from parking lot
- Displacement of/Allowance for bicycle parking
- Number of handicap parking spaces ADA Compliance
- Parking lot signage and striping
- Parking lot construction methods (e.g., base, surface, light pole foundations/attachments and wiring)

Feet
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Prince Street right-of-way vacation Location Map

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VILLAGE OF DOWNERS GROVE
REPORT FOR THE PLAN COMMISSION
NOVEMBER 7, 2011 AGENDA

SUBJECT:	TYPE:	SUBMITTED BY:
PC-38-11 Prince Street, between Grant Street and Sherman Street	Right-of-Way Vacation	Stan Popovich, AICP Planner

REQUEST
The petitioner is requesting the vacation of a 66-foot wide by 600-foot long portion of the Prince Street right-of-way located between Grant Street on the south, Sherman Street on the north and immediately adjacent to and west of the Downers Grove North High School properties.

NOTICE
The application has been filed in conformance with applicable procedural and public notice requirements.

GENERAL INFORMATION

OWNER: Village of Downers Grove
801 Burlington Road
Downers Grove, IL 60515

APPLICANTS: Community High School District 99
6301 Springside Avenue
Downers Grove, IL 60516

PROPERTY INFORMATION

EXISTING ZONING: R-4 Single Family Residence District (adjacent properties)
EXISTING LAND USE: Prince Street Right-of-Way
PROPERTY SIZE: 39,600 square feet
PINS: n/a (right-of-way)

SURROUNDING ZONING AND LAND USES

	ZONING	FUTURE LAND USE PLAN
NORTH:	R-4 Single Family Residence District and B-2, General Retail Business	Institutional
SOUTH:	R-4 Single Family Residence District	Single Family Residential
EAST:	R-4 Single Family Residence District	Institutional
WEST:	R-4 Single Family Residence District	Institutional

ANALYSIS

SUBMITTALS

This report is based on the following documents, which are on file with the Department of Community Development:

1. Application/Petition for Public Hearing
2. Project Narrative
3. Legal description of the Prince Street right-of-way proposed to be vacated
4. Comprehensive redevelopment plans
5. Village alley vacation policy (Resolution #2003-58)

PROJECT DESCRIPTION

Community High School District 99 (CHSD99) is requesting the Village vacate the entire Prince Street right-of-way located between Grant Street on the south and Sherman Street on the north to CHSD99. The proposed right-of-way measures 66 feet wide by 600 feet long. The right-of-way is currently improved with a 28-foot wide street with a sidewalk on the east side of the right-of-way and parkway trees on both sides. The petitioner is requesting the Village consider a right-of-way vacation to enable the school district to address parking needs and create an additional athletic field for Downers Grove North High School (DGN).

Currently, there are six parcels that abut the right-of-way, all of which are owned by CHSD99. A single large parcel is located on the east side of the right-of-way while five parcels are located on the west side. The east parcel houses a DGN building and football field. The northernmost western parcel is currently a parking lot for DGN. Single family homes are located on the remaining four western parcels. As shown in the table below, the entire right-of-way would be vacated to CHSD99:

Address	Requested Width	Requested Length	Approximate Increase in Area
Prince Street ROW	66 feet	600 feet	39,600 square feet

The proposed right-of-way vacation would enable CHSD99 to undertake a comprehensive redevelopment of the entire block located between Sherman Street on the north, Prince Street on the east, Grant Street on the south and Saratoga Avenue on the west being redeveloped. Per the CHSD99 redevelopment proposal, a soccer field will be constructed on the northern two-thirds of the block while a parking lot for faculty parking and bus drop-off and pick-up will be located on the southern one-third of the block. The vacated right-of-way would be used partly as an entrance to the parking lot at the intersection of Prince Street and Grant Street. A portion of the right-of-way would be converted to a plaza adjacent to the proposed parking lot. The plaza would include a bathroom building and an open canopy. The canopy, located within the vacated right-of-way, would include columns and a roof but not be enclosed by walls. The canopy is intended to provide a place of cover from the weather for students waiting for transportation. Extending north from the plaza, a 16-foot wide walkway would run north to the Sherman Street right-of-way between the soccer and football fields. The remaining width would be converted to green space. At the intersection of Prince Street and Sherman Street, a mountable curb and gate are proposed for emergency vehicle access. The vacation of the Prince Street right-of-way is necessary to accommodate the redevelopment

Per the Village's Right-of-Way Vacation Policy (Resolution #2003-58), staff contacted the utility companies and outside public agencies (including the Police, Fire and Public Works Departments, School Districts, Sanitary District and Downers Grove Park District) to determine if any rights to the public right-

of-way should be retained. The Sanitary District has a sanitary sewer main running down the center of the Prince Street right-of-way. A sanitary main also runs east from the Prince Street main to connect to a sanitary sewer main at Main Street. A Village water main is located within the parkway adjacent to the western curb of Prince Street. A second water main running east-west immediately south of the track connects the Prince Street water main to a water main in the Main Street right-of-way to the east. Additionally, a Village storm sewer runs down the east side of Prince Street. Similar to the sanitary sewer and water mains, a storm sewer connects the Prince Street storm sewer to a Main Street storm sewer immediately south of the track. Comcast and AT&T do not have any utilities within the right-of-way. Overhead electric lines are located within the southern section of both the Grant Street and Sherman Street right-of-ways and would not be affected by the vacation. An existing overhead utility line runs across the right-of-way to provide service to the existing football field press box. It is anticipated that this service will be relocated during the proposed improvements. A gas line is located immediately east of the eastern curb of Prince Street. There are no other known utilities in the right-of-way.

The applicant is proposing to dedicate a 45-foot wide public drainage, utility and utility access easement within the right-of-way. It is the Village's opinion that the 45-foot wide easement is not sufficient to provide access to the existing utilities and to provide adequate space for any future utility needs. The Village requires a minimum of 10-feet adjacent to each utility. Therefore, the Village is recommending maintaining a 51-foot wide easement. The easement would extend 26 feet to the west of the centerline of Prince Street and 25 feet to the east of the centerline. This additional area would provide the Village with a minimum of 10-feet adjacent to each utility and ensure that there is sufficient access to the existing utilities and to provide adequate space for any future utility needs.

The southern 93 feet of the easement would be reduced to a 48-foot width to accommodate the proposed canopy structure. The Village believes the reduction of the easement in this area will not adversely affect the Village's ability to maintain the utilities in this portion of the right-of-way. To accommodate the sanitary sewer main that runs from Prince Street to Main Street, the existing easement located over the football field parcel will be extend to connect to the 51-foot wide easement over Prince Street. To accommodate the water and sewer mains that run from Prince Street to Main Street, a 35-foot wide public drainage, utility and utility access easement will be provided over those lines. As such, any construction within the easements will be restricted to walkways, driveways, landscaping and fencing. The petitioner has been informed of this requirement and restrictions and does not object to the easement.

The petitioner completed a traffic impact study to determine the impact of the street closure and to address other issues related to the proposed comprehensive redevelopment at DGN. The study found that the proposed vacation and closure of Prince Street between Grant Street and Sherman Street would not result in significant impacts to traffic flow within the area. The study noted existing traffic on this portion of the right-of-way are primarily related to school buses and existing school parking areas and that all non-school related traffic destined for Ogden Avenue most likely uses the intersection of Ogden Avenue and Saratoga Avenue due to the intersection being signalized. The study found that the adjacent roadway network will continue to function at a similar level of service as it does today.

The Village reviewed the traffic impact study and concurred with its findings related to the vacation of the Prince Street right-of-way. The existing right-of-way sees minimal non-school related traffic. Additionally, during the school year, Prince Street between Lincoln Street and Sherman Street and Grant Street between Prince Street and Saratoga Avenue are closed to traffic between 3 p.m. and 4 p.m. to accommodate school busses. Staff believes the adjacent street system is sufficient to accommodate the re-directed traffic associated with the vacation of Prince Street.

COMPLIANCE WITH THE COMPREHENSIVE PLAN

The Community Facilities section of the Comprehensive Plan recommends that the Village 'promote the continued operation and improvement of both public and private school facilities, ensure they do not impact residential neighborhoods, and cooperate with the various organizations to maintain high quality school sites and facilities.' The proposed Prince Street right-of-way vacation meets this recommendation by providing the school district an opportunity to improve their athletic and parking facilities in a high quality manner. The proposed bus parking within a parking lot will eliminate on-street bus stacking adjacent to 15 residential properties along Prince Street south of DGN. Staff concurs with the traffic impact study which notes the proposed vacation will not negatively affect the adjacent road system in the neighborhood. Staff believes the proposed right-of-way vacation is consistent with the Comprehensive Plan.

COMPLIANCE WITH THE ZONING ORDINANCE

The surrounding properties are all zoned R-4 single family residence district. The right-of-way vacation will increase the DGN property by 39,600 square feet. If the right-of-way is vacated, the petitioner will be able to undertake a comprehensive redevelopment of this block. The proposed improvements will be required to meet all Zoning Ordinance requirements. Because an easement is being placed on a 51-foot wide portion of the vacated right-of-way, no new buildings or structures, other than a walkway, driveway, landscaping and fencing, could be constructed within the easement. Staff believes the proposed vacation is consistent with the Zoning Ordinance.

PUBLIC SAFETY REQUIREMENTS

The Fire Department and the Police Department have reviewed the plans for the proposed vacation. The Fire Department requires that the 16-foot wide walkway be modified so that it is 20-feet wide to accommodate emergency vehicles. If CHSD99 desires, the walkway could be a combination of hard pavement and a grass paver system, as long as the walkway can accommodate a total vehicle weight of 80,000 pounds. Additionally, the Fire Department requires a mountable curb on the plaza to accommodate emergency vehicles arriving from the south while the northern gate must include a lockbox and be operable by a single individual.

The Police Department reviewed the proposed vacation and found no concerns with the proposed right-of-way vacation. The department did have some operational questions regarding the parking lots as well and those have been forwarded to the petitioner.

NEIGHBORHOOD COMMENT

Notice was provided to all property owners 250 feet or less from the adjacent right-of-way properties in addition to posting the public hearing sign and publishing the legal notice. Staff has not received any written neighborhood comment regarding the proposal at this time.

The petitioner held a neighborhood meeting on October 27, 2011. The results of the neighborhood meeting will be available at the November 7 Plan Commission meeting.

FINDINGS OF FACT

Compliance with the Procedure to be followed in the Vacation of Streets, Alleys, and Public Rights-of-Way (Resolution #2003-58)

The Village's right-of-way vacation policy asks two key questions when it comes to determining if a right-of-way can be vacated. These questions and staff's findings are listed below:

- Is there written consent of at least two property owners who abut the proposed parcel to be vacated?
  - The petitioner is the only property owner who abuts the proposed right-of-way to be vacated.

- Are there any known public interests served the parcel?
  - As noted above, staff contacted the utility companies and outside public agencies to determine the extent of pubic interest. Based on their replies, staff has determined the public interests can be addressed by retaining a 51-foot wide public drainage, utility and utility access easement as depicted on the attached sketch. As such, the petitioners will not be able to construct any permanent structure, other than a walkway, driveway, landscaping or fence, within the dedicated easements. The petitioners have been informed of the easement requirements and do not object to them.
  - The traffic impact study found that the proposed vacation will not negatively impact the surrounding transportation system. The study found that current traffic using Prince Street can be accommodated on Saratoga Avenue without a decrease in the level of service currently being provided.

Based on these findings, staff believes the request complies with the Village policy outlined in Resolution #2003-58 and recommends vacating the entire 66-foot wide by 600-foot long Prince Street right-of-way to the petitioner with a 51-foot wide public drainage, utility and utility access easement placed over the right-of-way to be vacated.

Per the right-of-way vacation policy, staff has determined the fair market value of the vacated right-of-way based on the latest assessment of land adjacent to the right-of-way. When land will be encumbered with an easement, land is generally valued at one-third (1/3) of the value of the same property that does not have an easement. As such, the portion of the right-of-way that will be encumbered with an easement will be valued at one-third, while the remaining portion of the right-of-way will be valued at full value. Based on the required easements, 30,761 square feet of the 39,600 square foot right-of-way will be encumbered with a public drainage, utility and utility access easement. The remaining 8,839 square feet of vacated right-of-way will not be encumbered with an easement.

The table below summarizes the estimated value:

Portion of right-of-way encumbered by a public drainage, utility and utility access easement

Adjacent Property Address	Land Value	Lot Size (Square Feet)	Square Foot Land Value	SF of ROW to be vacated	Estimated Value	Encumbered Value
4434 Prince Street	$ 98,140	13,188	$ 7.44	30,761	$ 228,911.48	$ 75,541

Portion of right-of-way not encumbered with an easement

Adjacent Property Address	Land Value	Lot Size (Square Feet)	Square Foot Land Value	SF of ROW to be vacated	Estimated Value
4434 Prince Street	$ 98,140	13,188	$ 7.44	8,839	$ 65,776

Total value of Right-of-Way to be vacated	$ 141,317

Per the right-of-way vacation policy, the Village Council determines the amount and type of compensation, if any, that is required. CHSD99 has requested waiving the compensation fee. Staff recommends the Village waive the $141,317 compensation fee.

RECOMMENDATIONS

Staff believes the proposed right-of-way vacation is consistent with the Village's Comprehensive Plan, right-of-way vacation policy (Resolution #2003-58) and surrounding zoning and land use classifications. Based on the findings listed above, staff recommends that the Plan Commission make a motion

recommending approval of the Prince Street right-of-way vacation associated with PC-38-11 to the Village Council subject to the conditions below:

1. The vacation shall substantially conform to the staff report dated November 7, 2011.
2. Prior to final Village Council consideration, a Mylar copy of the Final Plat of Vacation indicating the required easements per the attached easement sketch shall be prepared and submitted to the Village.
3. The Village shall waive the $141,317 compensation for the vacated right-of-way.
4. A mountable curb shall be provided onto the plaza at the south end of the vacated right-of-way.
5. The 16-foot wide walkway shall be redesigned to provide a 20-foot width that can accommodate an 80,000 pound emergency vehicle.
6. The northern gate shall include a lockbox and be designed such that a single individual can operate the gate.

Staff Report Approved By:

_____

Tom Dabareiner, AICP
Director of Community Development

TD:sp
-att

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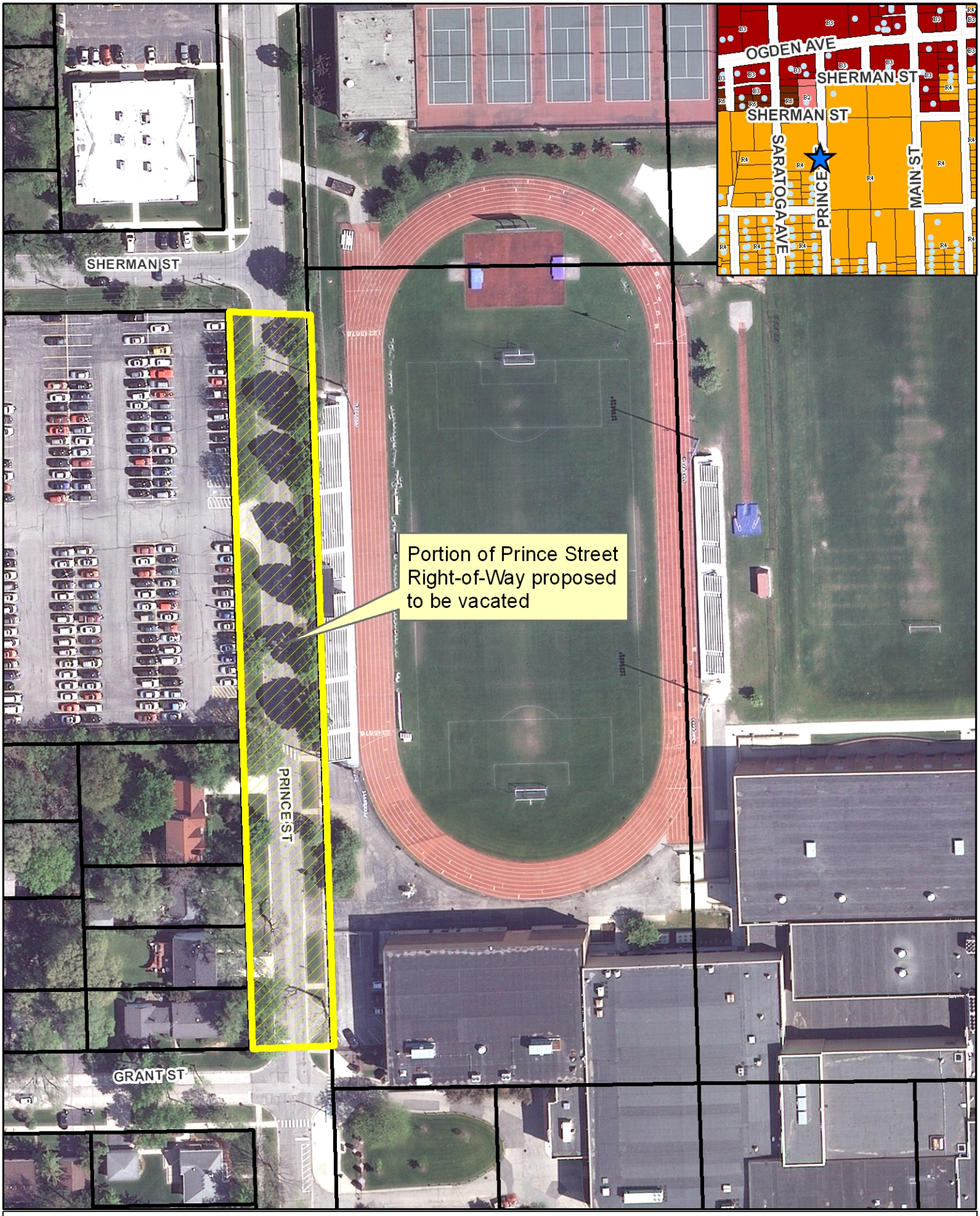

Feet
0 25 50 100

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Prince Street right-of-way vacation Location Map

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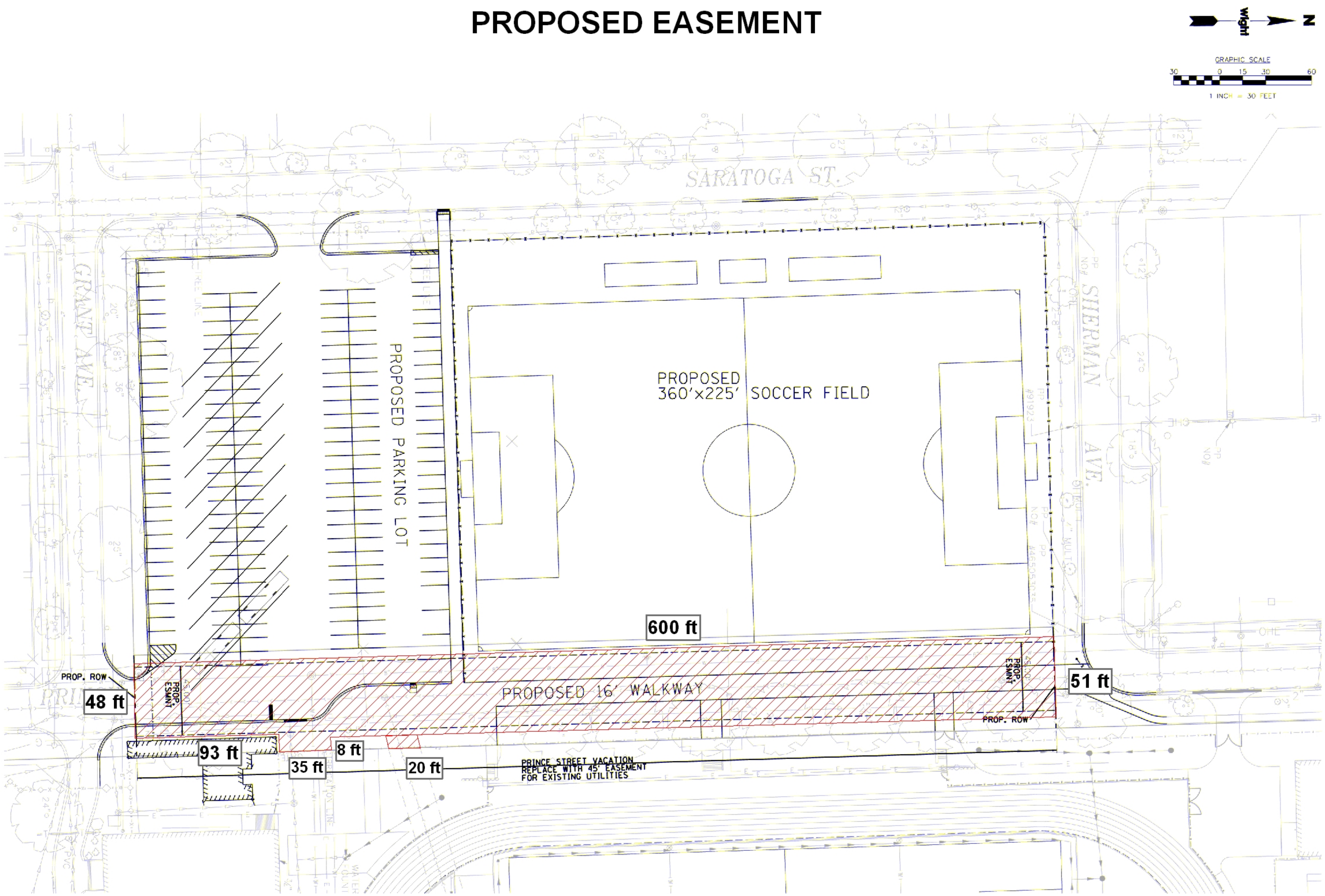
PROPOSED EASEMENT



Wight

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NORTH HIGH SCHOOL
MSP 2011 TIER 1
PHASE 2

4436 Main St.
Downers Grove, IL

GEOMETRIC PLAN
WEST

Project Number:
0-5274-06
Drawn By:
KMB
Sheet:

C4.2

Village of Downers Grove
Official Village Policy Approved by Village Council

Description:	**Procedure to be Followed in the Vacation of Streets, Alleys, and Public Rights-of-Way**
Res. or Ord. #:	**Res. 2003-58** Effective Date: **7/1/03**
Category:	**Planning and Community Development**
	____ New Council Policy
	X Amends Previous Policy Dated: **6/24/74, 8/11/80, 10/21/91, 7/6/93, and 4/5/99**
	Description of Previous Policy (if different from above):
	Vacation of Streets or Alleys or Portions Thereof

RESOLUTION 2003-58

RESOLUTION ESTABLISHING A PROCEDURE TO BE FOLLOWED IN THE VACATION OF STREETS, ALLEYS AND PUBLIC RIGHTS-OF-WAY IN THE VILLAGE OF DOWNERS GROVE, ILLINOIS

WHEREAS, pursuant to applicable law, the Village Council of the Village of Downers Grove has the power and authority to vacate streets, alleys and public rights-of-way within the jurisdiction of the Village; and

WHEREAS, the Council of the Village of Downers Grove has determined that it is in the best interests of the Village to establish a procedure to be followed in determining whether a particular street, alley or right-of-way should be vacated, the method by which such vacation should be accomplished, and the compensation, if any, to be paid with respect thereto,

NOW, THEREFORE, BE IT RESOLVED by the Council of the Village of Downers Grove, in DuPage County, Illinois, as follows:

1. That the following procedure shall, in all events, be followed in processing, considering and acting upon requests for the vacation of streets, alleys and public rights-of-way located within the corporate limits of the Village of Downers Grove:

a. The person or persons desiring the vacation of a particular street, alley or public right-of-way (the "Petitioner"), shall file with the Village a written petition on a prescribed form requesting such vacation, which petition shall contain the following information:

(i) name and address of the Petitioner;

(ii) the location, and if possible, the legal description of the street, alley or public right-of-way to be vacated (the "Parcel");

(iii) names and addresses of all owners of record of property abutting upon the Parcel, and a statement as to the frontage in terms of lineal feet of each parcel of property so abutting the Parcel;

(iv) a statement as to the type of any known public service facilities over, under or upon the Parcel, and the name of the public utility owning the same.

(v) the written consent of at least two property owners who abut the proposed parcel to be vacated.

(vi) a fee of three hundred dollars ($300.00) shall be paid to the Village, provided that no such fee shall be required if the Petitioner is a public body. This fee shall be used to pay for Staff processing of the petition, hearing notice publication and plat recordation costs. This fee does not include the cost of the plat preparation or the appraisal(s) of the fair market value of the Parcel (as outlined in section 1(g)).

b. Staff shall cause written notice of the proposed vacation of the Parcel to be mailed to all public utilities with a request that such utilities inform the Village of any easements over, under, or upon the Parcel which must be retained at the time of vacation, and to units of local government having an interest in the Parcel. Failure of any such owner of record or public utility to receive such notice shall not invalidate, impair or otherwise affect the validity of any vacation that may thereafter occur.

c. Staff shall evaluate the request and prepare a staff report, taking into consideration the nature of the request, including known public interests, if any, served by the Parcel. In doing so, Staff shall verify the information contained in the petition in order to assure that all required owners of property abutting the Parcel are named and that all existing public service facilities have been disclosed, if any, to the Village to affect such vacation. The following informational items shall be included in the staff report:

(i) A map showing the location of the proposed street, alley or public right-of-way to be vacated.

(ii) Information as to current and future use of the street, alley or public right-of-way including:
- (a) watermains
- (b) storm sewers or storm drainage conveyance or storage facilities
- (c) sanitary sewers
- (d) electric utilities
- (e) natural gas utilities
- (f) telephone utilities
- (g) vehicular access, public or private
- (h) pedestrian access, public or private
- (i) public open space

(iii) A recommendation with regard to retention of easements, if any, within the Parcel for the benefit of public utilities, potential use of the parcel for public walkways or bike trails and access of adjacent property owners.

(iv) A recommendation regarding the vesting of title to the property upon vacation of the street, alley or public right-of-way. The instrument dedicating the street, alley or public right-of-way must be examined to determine if the specific devolution of the title upon vacation thereof is provided for in the document. If no specific devolution of title is provided for, then a recommendation regarding the vesting rights of the abutting property owners must be made. The Village, in its discretion, may grant title to the entire vacated street, alley or public right-of-way to only one abutting property owner.

d. Staff shall forward the petition to the Village Traffic Engineer who shall be responsible for reviewing the request to determine the potential future need for the Parcel, the potential for increased traffic associated with the vacation of the Parcel, and an estimate of future costs to the Village associated with the vacation. This information shall be incorporated into the staff report.

e. Upon completion of the staff report, the staff report and the petition shall be referred to the Plan Commission for public hearing. Notice of the time and place of such hearing shall be given not more than thirty (30) nor less than fifteen (15) days before the date thereof, by publishing such notice at least once in one or more newspapers of general circulation within the Village. In addition, copies of such notice shall be sent by the Village to the owners of record of property abutting the Parcel.

f. The Plan Commission shall forward its recommendation regarding vacation of the Parcel to the Village Council for its consideration.

g. Prior to the petition being considered by the Village Council, the Petitioner must submit an appraisal conducted by a certified appraiser. The Village, in its sole discretion, may consider an alternate assessment of the current market value of the Parcel in lieu of an appraisal.

i) If the appraisal submitted by the Petitioner is disputed by the Village, the Village in its sole discretion may obtain a second independent appraisal, at Village expense.

ii) If the Petitioner disputes the second appraisal, the Village will contact a third independent appraiser to perform a review appraisal, the cost of which shall be paid by the Petitioner. The Village Council shall then make a final determination of market value which shall be binding on all parties.

h. The Village Council shall determine:

(i) Whether the Parcel or portion thereof, is no longer necessary for public use and whether the public interest will be served by such vacation request.

(ii) Whether the Parcel or portion thereof, should be vacated and whether public utility easements and any ingress-egress easements are to be maintained.

(iii) The amount and type of compensation, if any, to be required as a condition to the effectiveness of the vacation of the parcel.

i. The Petitioner shall be notified of the decision of the Village Council, and of any conditions placed on the vacation. If the Petitioner desires to proceed with such vacation, the Petitioner shall provide a plat of vacation with reservation of required easements, if any, in a form as prescribed by the Village.

j. After a statement by the Village Manager that the plat has been prepared and submitted, the Village Council shall consider the ordinance. If the Village Council determines to adopt such ordinance, it shall do so by a 3/4 vote of its members.

k. Upon passage of the ordinance, the Village Clerk shall record the ordinance and the plat in the Office of the Recorder of Deeds of DuPage County and file such documents with the DuPage County Clerk. Copies of the recorded documents shall be sent by the Village Clerk to the office of the assessor for the township in which the Parcel is located and notice of the effectiveness of the vacation shall be sent to the owners of record of the property abutting the Parcel.

2. The validity of any vacation otherwise carried out in accordance with applicable law shall not be invalidated, impaired or otherwise affected by noncompliance with any part of the procedure set forth herein.

3. That Resolutions 74-34, 80-45, 91-43, 99-22 and all other resolutions or parts of resolutions in conflict with the provisions of this resolution are hereby repealed.

4. That this resolution shall be in full force and effect from and after its passage and approval as provided by law.

Brian J. Krajewski, Mayor

Passed: July 1, 2003
Attest: April Holden, Village Clerk

1\mw\res.03\vacation-policy

PROJECT NARRATIVE

FOR

CHSD 99 – NORTH HIGH SCHOOL

MSP 2011 TIER 1 IMPROVEMENTS

Community High School District 99 is proposing to modify the site conditions at North HS to address athletic and parking needs of the high school. This endeavor is divided into two (2) Phases. The first phase, constructed this summer, was to address athletic needs by replacing the grass football field with synthetic turf, replacing the track, moving the softball field to the west side of Main Street and creating a playable grass area to the north of the relocated softball field for PE and athletics. Phase 2, scheduled for the spring/summer of 2012, will address the parking needs and create an additional athletic field. Phase 2 will occur to the east and west of the high school. Please refer to the attached color rendering depicting all improvements.

To address the student parking needs the existing east parking lot and softball field will be removed for a new parking lot between Grant Avenue and Sherman Street. This parking lot is divided into a north and south lot by an 8' walkway running west/east. The southern lot will serve as the parent drop off and main handicap parking and will have an access off of Grant Avenue. This new Grant access is slightly east of the existing access to allow more queuing at the Main Street Intersection. The northern section is for student parking and will have an 8' walk on the west side to transfer students to the signalized intersection at Main Street. A fence is proposed to the west of this walkway to block students from freely crossing Main Street. To access this northern lot two locations are proposed; one off of Sherman Street and one off of Highland Avenue.

For the western improvements the seven (7) residential houses along Prince Street, Grant Avenue and Saratoga Avenue will be demolished and a vacation of Prince Street between Sherman Street and Grant Avenue is requested. The houses are now owned by CHSD 99 and will be demolished so that the new west parking lot can be located closer to the school' west entrance. The new west parking lot will be faculty parking and service as the bus drop off and pick up. The vacation of Prince Street is being requested to create a much needed additional athletic field to bring an athletic event back on school campus and to connect this field with the track area for one athletic complex. At the current location of Prince Street, a 16' wide walkway is being proposed for pedestrians, district maintenance vehicles and emergency vehicles. Mountable curb and a gate are proposed at the southeast corner of Prince and Sherman for vehicle access. The attached Geometric Plan West (24x36) depicts the improvements to the west and the 16' walkway within the requested Vacation of Prince Street.

October 26, 2011

Village of Downers Grove-Civic Center
Department of Community Development
801 Burlington Ave.
Downers Grove, IL 60515-4782

Re: PC-38-11 Prince Street Right-of-Way Vacation

To Whom It May Concern:

Community High School District 99, a public taxing body, hereby requests waiver of compensation fees associated with the vacation of Prince Street in the amount of $142,115. District 99 believes the taxpayers of the Village and School District are best served by waiving these fees.

The vacation of Prince Street, between the intersections of Grant Street to the south and Sherman Avenue to the north, will allow the school district to improve the North High School campus by connecting its western-most property with the main campus, thereby providing better pedestrian and school bus access to the campus in a safer and more effective manner.

We would appreciate your consideration and approval to waive these fees. Should you have any questions, please do not hesitate to contact me at 630-795-7142.

Sincerely,

Martin W. Schack

cc. Dr. Mark McDonald-School Superintendent
Bill White-Board of Education President
Mark Staehlin-Controller

EXISTING PARKING SUMMARY			
	REGULAR	HANDICAP	TOTAL
WEST PARKING LOT	244	2	246
EAST PARKING LOT	172	2	174
SOUTH PARKING LOT	49	3	52
SHERMAN ROAD	22	0	22
SUB-TOTAL	487	7	494

PROPOSED PARKING SUMMARY			
	REGULAR	HANDICAP	TOTAL
WEST PARKING LOT	76	4	80
EAST PARKING LOT	442	9	451
SOUTH PARKING LOT	49	3	52
SHERMAN ROAD	22	0	22
SUB-TOTAL	589	16	605
TOTAL BUS PARKING: 20			
ADDITIONAL GAME PARKING: 82			687

COMMUNITY HIGH SCHOOL DISTRICT 99

NORTH HIGH SCHOOL – TIER 1 IMPROVEMENTS

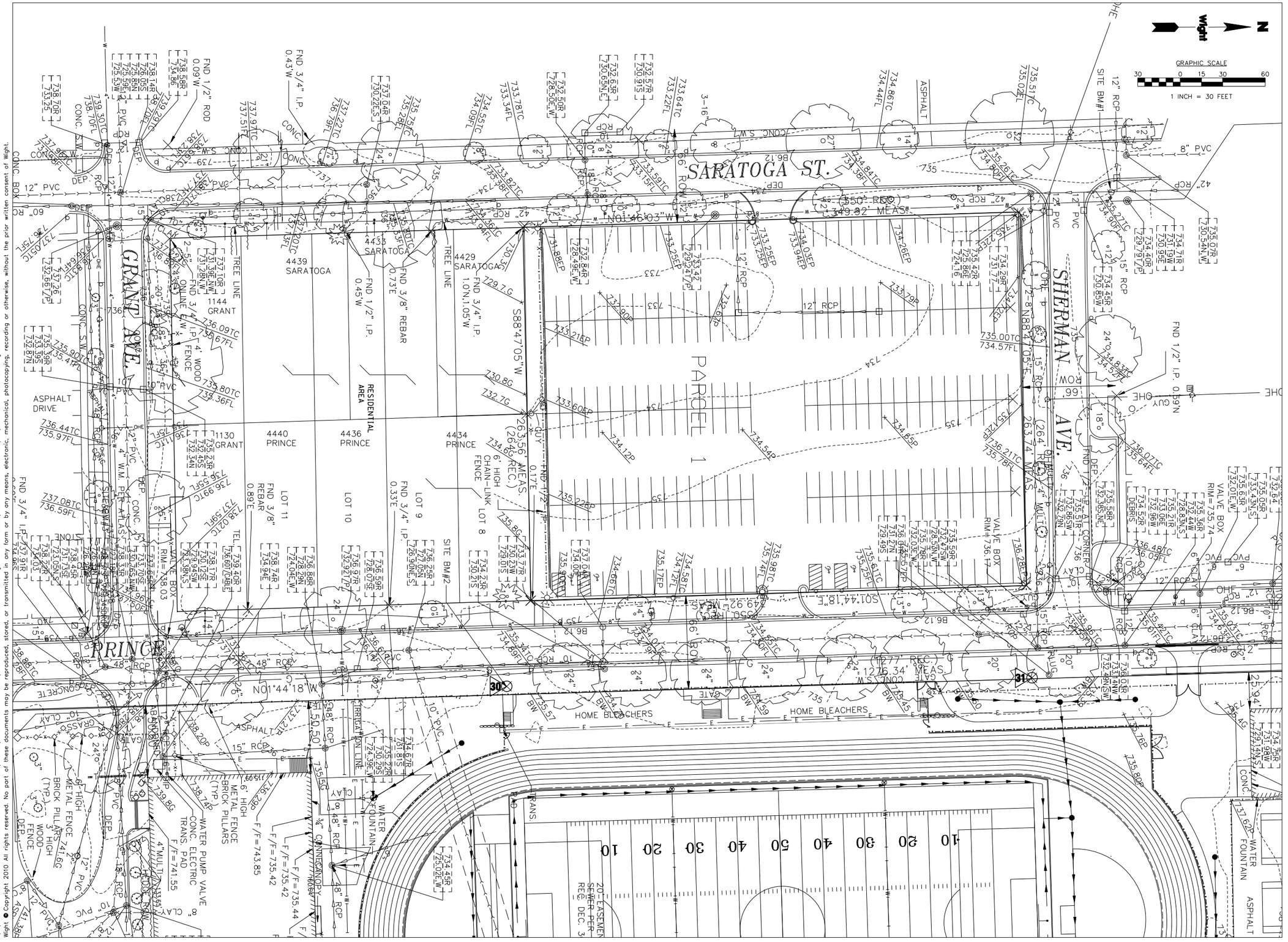
SEPTEMBER 29, 2011

GRAPHIC SCALE
80 0 40 80 160
1 INCH = 80 FEET

NORTH

01-5274-03

Wight



Wight & Company
wightco.com
2500 North Frontage Road
Darien, IL 60561
P 630.969.7000
F 630.969.7979

REV	DESCRIPTION	DATE

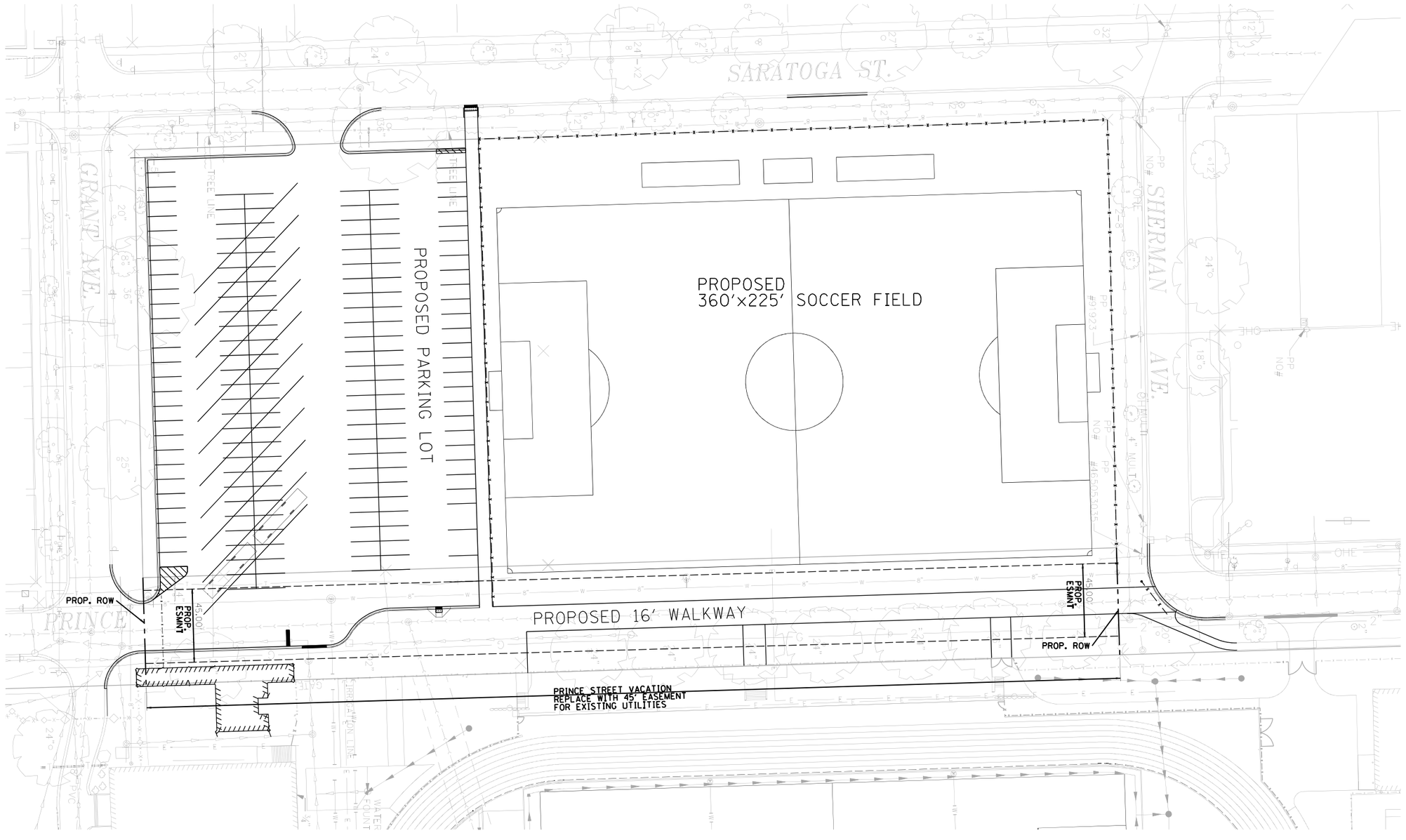
NORTH HIGH SCHOOL MSP 2011 TIER 1 PHASE 2

4436 Main St.
Downers Grove, IL

EXISTING CONDITIONS – WEST

Project Number:
01-5274-06
Drawn By:
KMB
Sheet:

C2.1



Wight & Company
wightco.com
2500 North Frontage Road
Darien, IL 60561
P 630.969.7000
F 630.969.7979

REV DESCRIPTION DATE

NORTH HIGH SCHOOL MSP 2011 TIER 1 PHASE 2

4436 Main St.
Downers Grove, IL

GEOMETRIC PLAN WEST

Project Number:
01-5214-06
Drawn By:
KMB
Sheet:

C4.2

CIVIL ENGINEERING CONSULTANTS

RWA

Regina Webster & Associates, Inc.

Traffic Impact Study

Proposed North High School Site Improvements

Prepared for
Community High School District 99

Submitted by

Regina Webster & Associates, Inc.

Regina Webster
& Associates, Inc.
8619 W. Bryn Mawr Avenue
Suite 602
Chicago, Illinois 60631
773.283.2600 phone
773.283.2602 fax
www.RWAengineers.com

1. SUMMARY

This report presents the findings of a Traffic Impact Study (TIS) conducted for the proposed improvements at North High School in Downers Grove, Illinois. The purpose of the TIS is to analyze the expected traffic impacts to the surrounding roadways as a result of the proposed improvements to the school, including parking reconfiguration and vacating a portion of Prince Street to accommodate improvements to the school's athletic facilities. As shown in Figure 1, the school is located on a site bounded on the north by Ogden Avenue (US Route 34), on the east by Highland Avenue, on the west by Saratoga Avenue, and on the south by Lincoln Street.

The analyses presented in this report resulted in the following conclusions and recommendations:

Conclusions

- The study intersections that currently operate above acceptable levels are expected to continue to do so with the proposed school improvements.
- The study intersections that currently do not operate at acceptable levels are not expected to be significantly impacted with the proposed school improvements.
- The vacating of Prince Street between Sherman Street and Grant Street is not expected to result in significant impacts to traffic flow within the study area.

Recommendations

RWA recommends that the following actions be taken to ensure efficient traffic operations:

- Utilization of the gate in the fence on the west side of the East Parking Lot to serve as a pedestrian connection between the parking and the athletic fields on game days will create the need for a temporary mid-block crossing of Main Street. It is recommended that traffic control personnel be utilized to facilitate this crossing at these times.
- Consider developing and communicating a plan for parents that drop off and pick up students to reduce any confusion or conflicts that may arise from changing traffic patterns associated with the vacating of the portion of Prince Street.

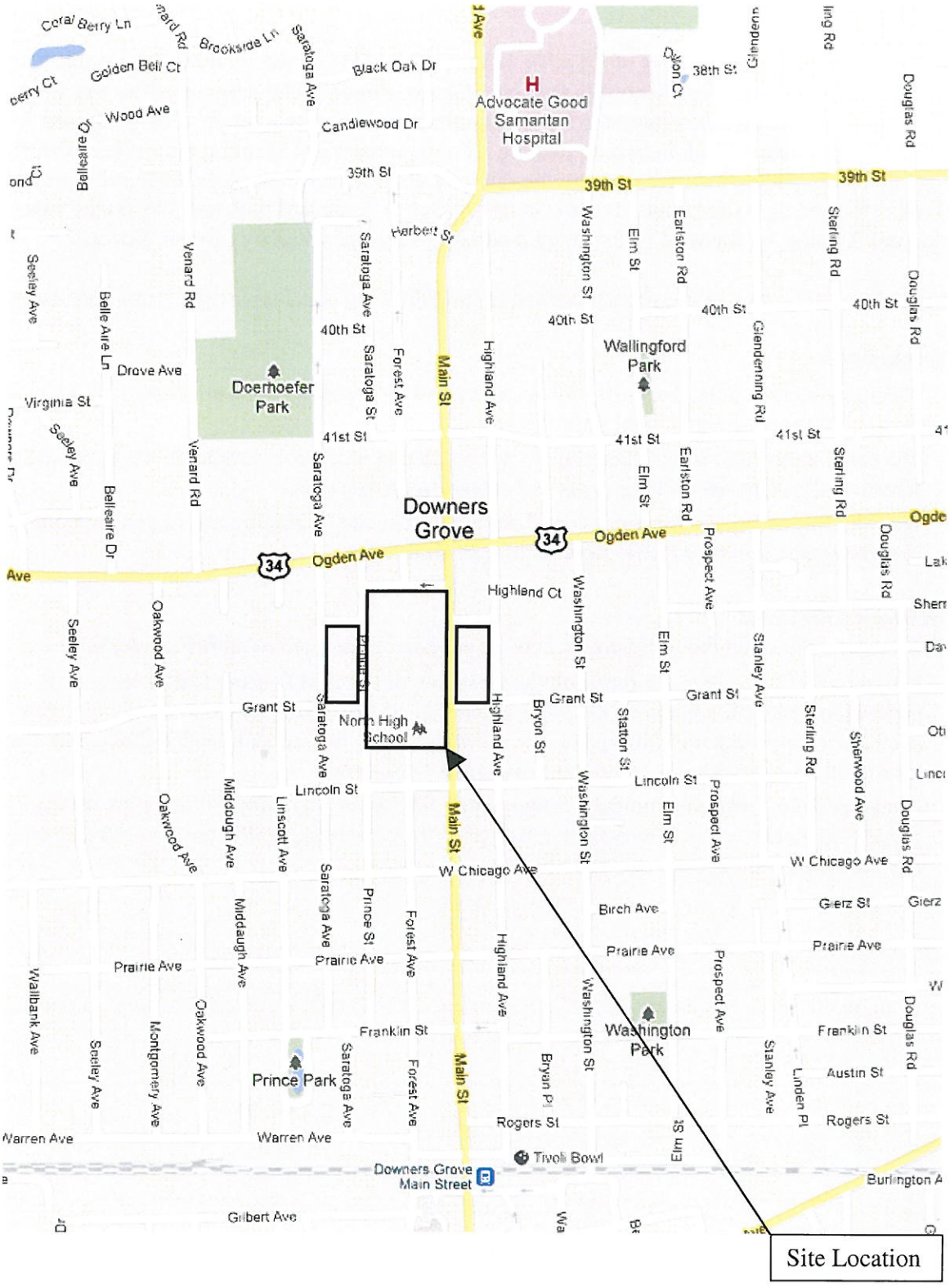


Figure 1: Site Location Map

Study Methodology

This study involved an assessment of the traffic impacts of the planned school improvements, which will be completed prior to the start of the 2012-2013 school year. A five-year horizon (2017) was used to study the future traffic operations. This assumed a background growth in regional traffic in addition to expected changes in the volume and distribution of school related traffic.

Existing intersection turning movement volume data was obtained for traffic, pedestrian, and bicycle movements for the periods around the start and end of the school day. The counts were conducted between 7:00 AM and 9:00 AM and between 2:00 PM and 4:00 PM on Wednesday and Thursday September 7 and 8, 2011, at the following 12 intersections:

- Ogden Avenue and Saratoga Avenue
- Ogden Avenue and Prince Street
- Ogden Avenue and Main Street
- Ogden Avenue and Highland Avenue
- Sherman Street and Saratoga Avenue
- Sherman Street and Prince Street
- Sherman Avenue and Main Street
- Grant Street and Saratoga Avenue
- Grant Street and Prince Street
- Grant Street and Main Street
- Grant Street and Highland Avenue
- Main Street and Lincoln Street

The current information was used in the evaluation of existing conditions and the formation of traffic and operational projections for the school based on the proposed improvements. The forecasted 2017 condition was developed considering the reconfiguration and addition of parking spaces and the proposed vacating of a portion of Prince Street.

Study intersections were analyzed for both existing and future conditions and conclusions were made based on the results. Existing and future pedestrian activity was also considered as part of the study.

2. EXISTING CONDITIONS

RWA conducted a field reconnaissance to collect relevant information pertaining to adjacent land uses, the surrounding roadway network, traffic controls, and existing traffic volumes at each of the study intersections outlined above.

Roadway Network

The area roadways included in the study are Ogden Avenue, Saratoga Avenue, Prince Street, Main Street, Highland Avenue, Sherman Street, Grant Street, and Lincoln Street. These roadways are described in more detail below.

Ogden Avenue (US Route 34) is an east-west arterial and a major US Route. The roadway includes two travel lanes in each direction, with additional left-turn lanes at major intersections. Sidewalk exists adjacent to the roadway, separated by grass landscaping.

Saratoga Avenue is a local street at the west end of the study area. The roadway is oriented north and south. The roadway includes one travel lane in each direction. Sidewalk exists adjacent to the roadway on the west side, separated by grass.

Prince Street is a local street near the center of the study area. The roadway is oriented north and south. The roadway includes one travel lane in each direction. Sidewalk exists adjacent to the roadway on either side at various points, separated by grass.

Main Street is a collector street near the center of the study area. The roadway is oriented north and south. The roadway includes two travel lanes in each direction, with additional left-turn lanes at major intersections. Sidewalk exists adjacent to the roadway on either side at various points, directly adjacent to the roadway near Ogden Avenue and then separated by grass further to the south.

Highland Avenue is a local street at the east end of the study area. The roadway is oriented north and south. The roadway includes one travel lane in each direction. Sidewalk exists adjacent to the roadway on both sides, separated by grass.

Sherman Street is a local street near the center of the study area. The roadway exists in two separate segments, to the west and east of North High School, that are physically separated by the school. The roadway is oriented east and west. The roadway includes one travel lane in each direction. Sidewalk exists adjacent to the roadway on the north side, separated by grass.

Grant Street is a local street near the south end of the study area. The roadway exists in two separate segments, to the west and east of North High School, that are physically separated by the school. The roadway is oriented east and west. The roadway includes one travel lane in each direction. Sidewalk exists adjacent to the roadway on the south side of the west segment, and on both sides of the east segment, separated by grass.

Lincoln Street is a local street at the south end of the study area. The roadway is oriented east and west. The roadway includes one travel lane in each direction. Sidewalk exists adjacent to the roadway on both sides, separated by grass.

Existing Site and Parking

The existing North High School consists of one school building to accommodate approximately 2,200 students and 300 full-time staff members. The main pedestrian building entrance is on the east side of the school directly west of the intersection of Main Street and Grant Street. Other pedestrian entrances exist on the south and west sides of the school. The existing site is shown in Figure 2.

Parking is currently provided to students and faculty in three lots and along Sherman Road between Prince Street and Main Street. Parking is by permit only. The school's student handbook indicates that student parking is available to seniors and those students with medical or other special needs. One parking lot is located west of the school, with access from both Saratoga Avenue and Prince Street. Another parking lot is located just east of the school, with access from Highland Avenue and Grant Street. A third faculty lot is located south of the school, with access from the main drop off on Forest Avenue and an exit-only driveway to Main Street. The following is a breakdown of the existing school parking supply.

Table 1 – Existing Parking Supply

Location	Parking Supply
West Parking Lot	246
East Parking Lot	174
South Parking Lot	52
Sherman Road	22
Total	**494**

Student Drop Off

Today, many parents who drop off students do so within the drop off on the south side of the school. Field observations indicated that this operates well with minimal queuing. Some parents drop off students elsewhere around the school such as on Prince Street to the west and within the East Parking Lot. This drop off activity was not observed to cause any significant issues with traffic operations around the school. On the contrary the distribution of drop offs appears to mute any impacts that can be experienced when drop off activity is concentrated at one location.

While drop off activity was observed to function well, it was noted that transportation related information on the school's website included guidance and policies on bus transportation and parking but did not include guidance on dropping students off.

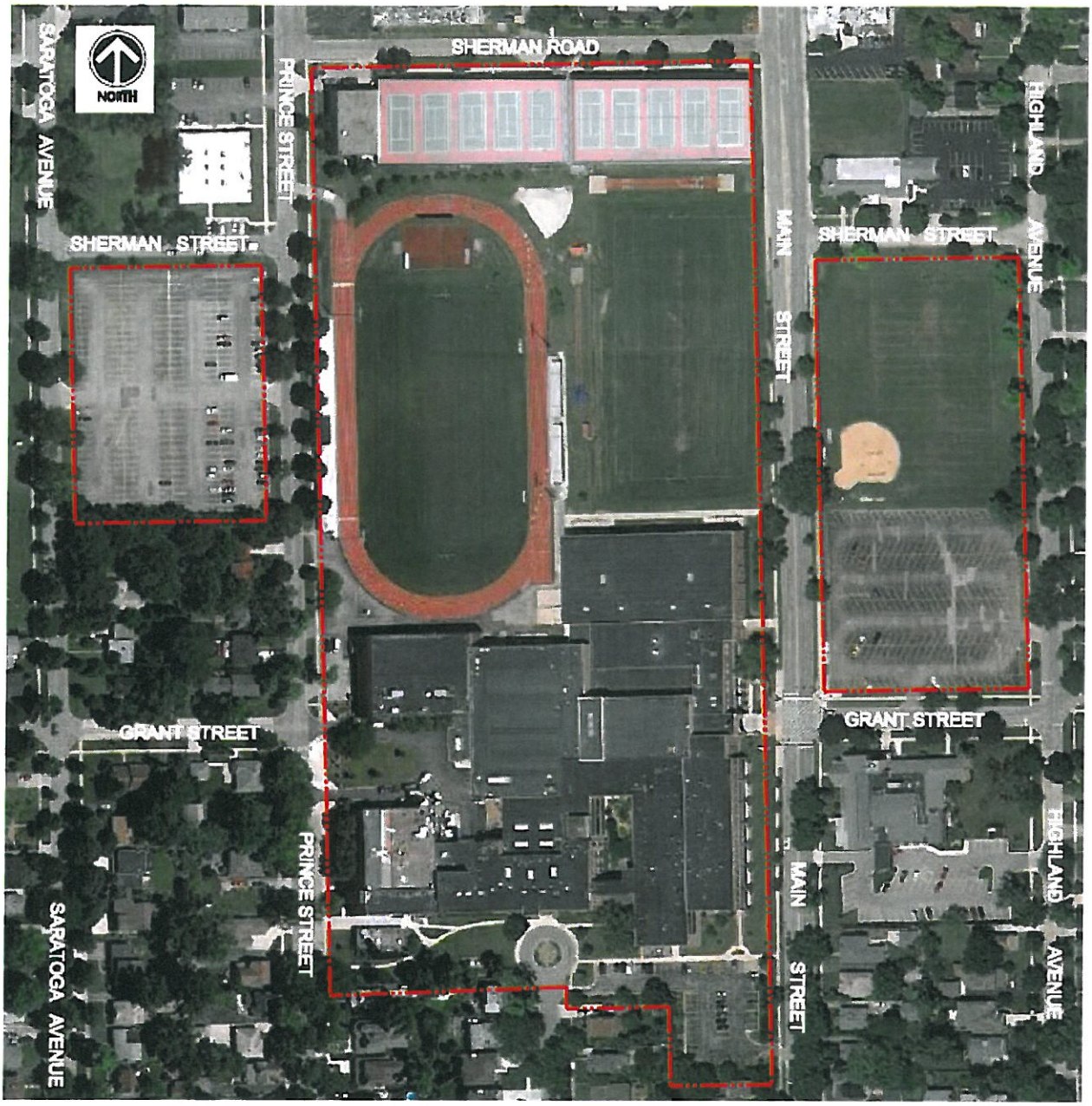


Figure 2: Existing Site

Transit

The school is served by twenty (20) school buses for transporting students between home and school, six (6) bus routes connecting the school with the Technology Center of DuPage and two (2) activity bus routes. Bus transportation is provided for students who live at least 1.5 miles from school. Students are required to have and display an ID card to ride buses offered by the school.

There are currently two Pace bus routes that operate within several blocks of the school, Routes 461 and 464. These routes stop along Main Street just south of Ogden Avenue, approximately one-quarter mile from the school entrance, and serve the North High School attendance area. The Downers Grove Metra station is located approximately three quarters of a mile south of the school on Main Street.

Traffic Volumes

RWA collected traffic volumes at the three study intersections on September 7 and 8, 2011, during the hours of 7:00 AM to 9:00 AM (Morning) and 2:00 PM to 4:00 PM (Afternoon). The periods for data collection were chosen to coincide with the start and end of the school day. Most students begin their day at 8:00 AM and are dismissed at 3:20 PM. The morning peak hour was found to occurred from 7:30 AM to 8:30 AM and the afternoon peak hour occurred from 3:00 PM to 4:00 PM. Figures 3 and 4 show the existing peak hour traffic volumes. For the purposes of this report, the two peak hours analyzed are noted as Morning and Afternoon, as indicated above.

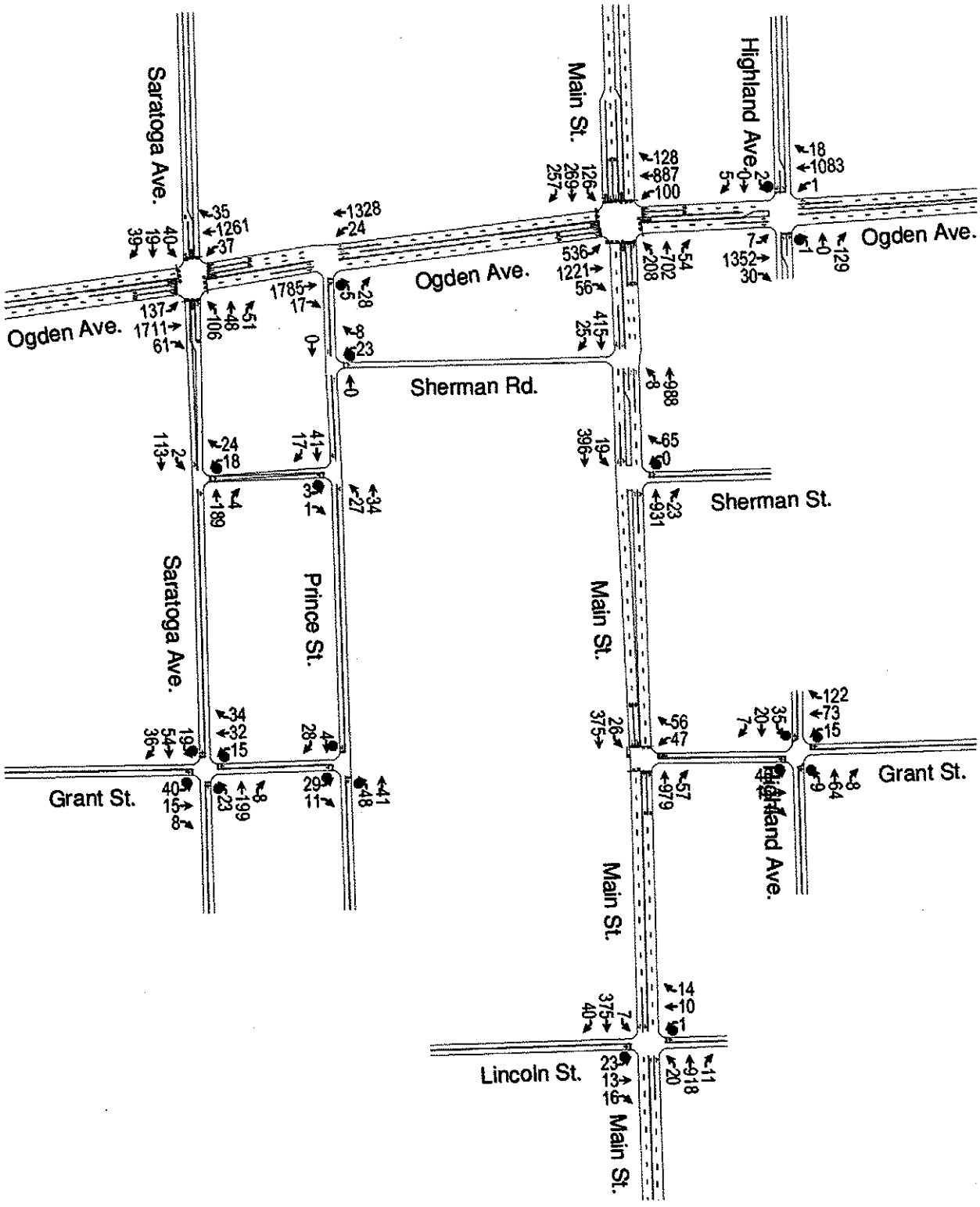


Figure 3: Existing Morning 2011 Traffic Volumes

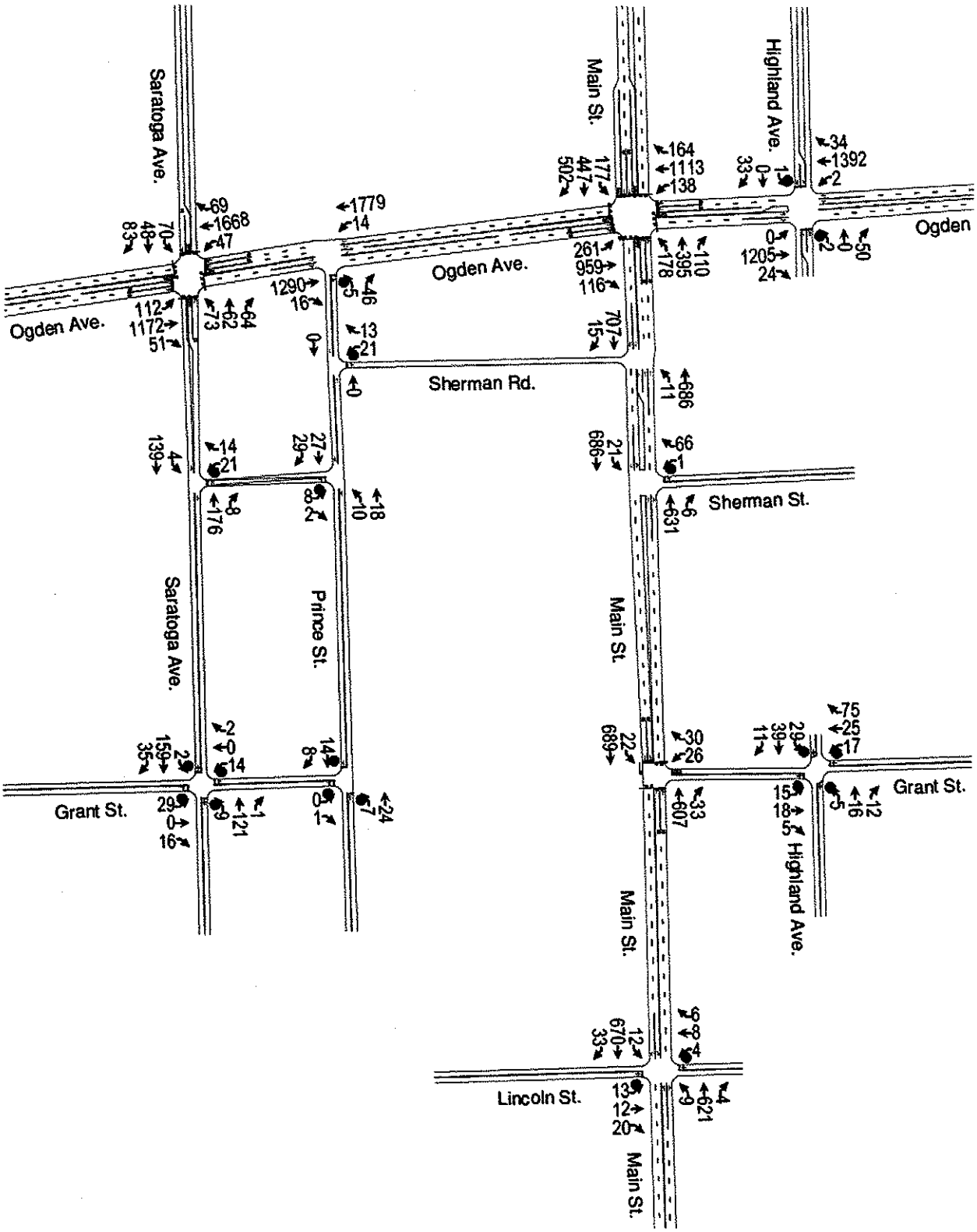


Figure 4: Existing Afternoon 2011 Traffic Volumes

3. PROPOSED IMPROVEMENTS

The proposed improvements include the addition and relocation of athletic facilities, a reconfiguration of available parking, and vacating the portion of Prince Street between Grant Street and Sherman Street. A new varsity softball field will be constructed just north of the school building, on the west side of Main Street. This area is currently vacant. The existing east parking lot will be expanded to the north into the area currently occupied by a softball field, with access points on Grant Street, Highland Avenue, and Sherman Street. A new soccer field will be constructed west of the school, in the space currently occupied by the west parking lot. A new bus and school faculty parking lot will be constructed west of the school, with access to Grant Street and Saratoga Avenue. This space is currently a residential area. Additionally, the existing track and field area will be reconstructed in the same space. No change in the number of students or faculty is anticipated as a result of the proposed improvements but the available parking supply is expected to increase.

A total of 494 parking spaces exist for use by the school today. The plan proposes an increase in parking supply of 193 spaces for a total supply of 687 as detailed in Table 2.

Table 2 – Proposed Parking Supply

Location	Parking Supply
West Parking Lot	162
East Parking Lot	451
South Parking Lot	52
Sherman Road	22
Total	**687**

About half of the West Parking Lot will be reserved on school days for use by school buses such that 80 of the 162 spaces will be available for use.

Figure 5 shows the proposed improvements to the North High School site.

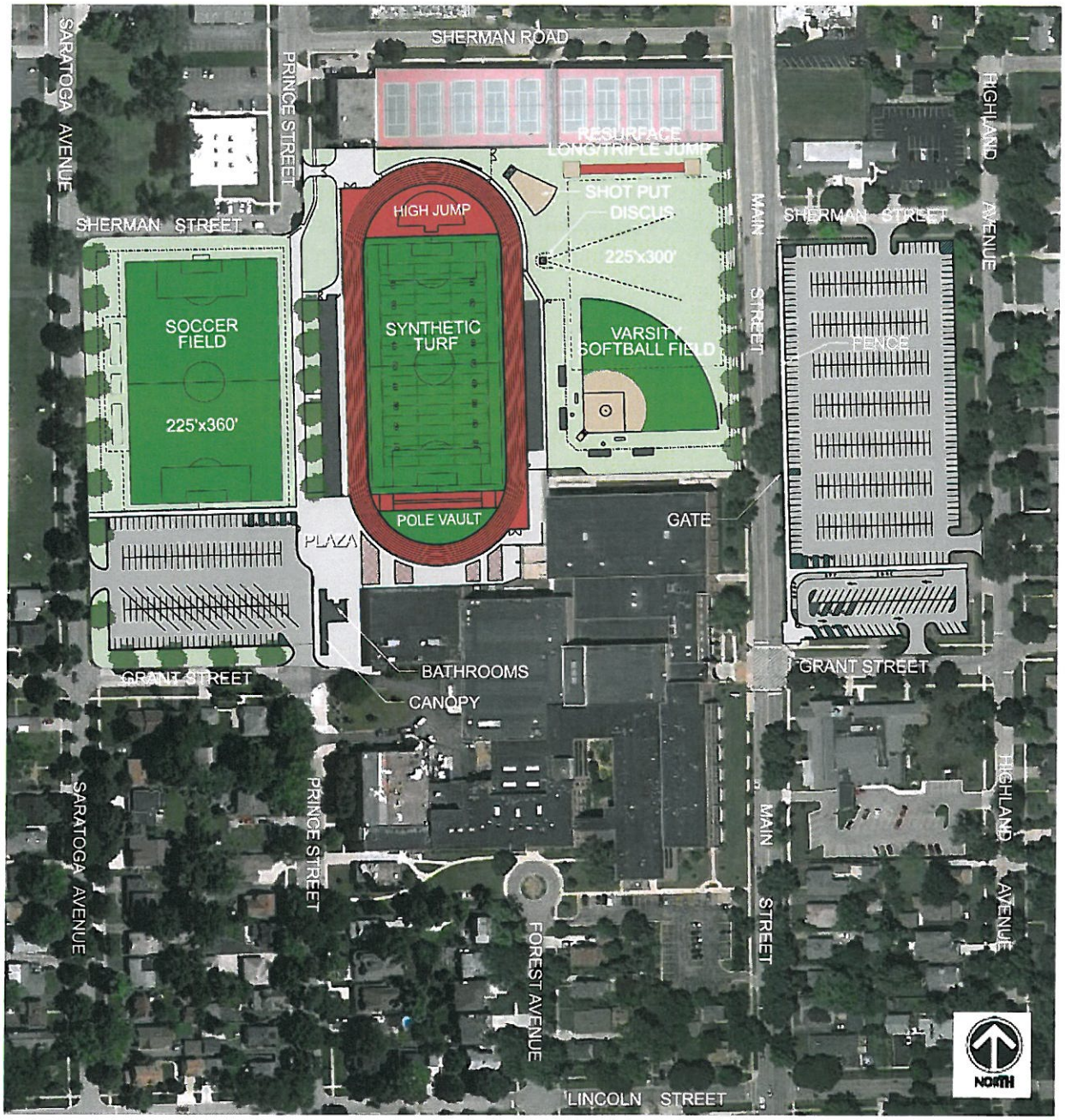


Figure 5: Proposed Site Plan

4. TRAFFIC IMPACT STUDY

Background Traffic Growth

This analysis accounts for the overall growth in background traffic by the year 2017 (five years after the scheduled completion of the improvements), by applying an annual growth rate to the existing year 2011 through traffic data on Ogden Avenue and on Main Street for the next five years. No other significant development projects are known to be planned in the vicinity of the site. While historical traffic data on these routes was not available, it is expected that regional development may result in only modest increases in regionally generated traffic volumes. Therefore, a growth rate of 0.5% per year was assumed along Ogden Avenue and Main Street to account for local and regional ambient growth.

Modal Split

Observations indicated that the majority of school staff typically arrives via automobile. Students arrive either on foot, by bus, are dropped off by parents, drive themselves or ride with another student who drives. A handful of students bike to school.

Based on field observations conducted on September 8, 2011 in the Morning peak hour, the observed mode split at North High School was as follows:

- 22% Walk
- 1% Bike
- 11% Drive themselves
- 10% Ride with another student
- 28% Dropped off by parents
- 28% Arrive by bus

This mode split was used as an input towards the determination of the school's vehicular trip generation.

Site-Generated Traffic

Data and analysis contained in the Institute of Transportation Engineers publication *Trip Generation, 8th Edition* was reviewed for expected trip generation associated with the school. The calculated vehicle trips from ITE were compared to field observations. It was found that trip estimates based on ITE were not representative of the traffic volumes associated with North High School. The discrepancy is most likely due to variations in bus service and parking supply between North High School and the sites included in ITE data. Therefore *Trip Generation* data was not used as part of this study.

It was determined that the vehicle trip generation associated with North High School is most influenced by the available parking supply and the school's ability to issue parking permits for students. Any change to site related vehicle trips are expected to result from the proposed increase in overall parking supply by approximately 100 available spaces for use on a typical school day.

A correlation between parking supply and vehicle trips associated with that supply was determined based on the existing parking inventory, traffic count data and field observations. This correlation between vehicle trips and parking supply for the East and West parking lots were determined as follows:

Table 1 – Parking Lot Related Vehicle Trips

Parking Lot	Parking Supply	Morning Peak Hour			Afternoon Peak Hour		
		IN	OUT	Total	IN	OUT	Total
West Parking Lot	246	134	13	147	7	72	79
East Parking Lot	174	65	14	79	17	54	71
Subtotal	420	199	27	226	24	126	150
Trips per Parking Space (% IN, % OUT, Rate)		**88%**	**12%**	**0.54**	**16%**	**84%**	**0.36**

The trip generation rates based on the parking supply for the Morning and Afternoon peak hours were used to estimate the expected increase in vehicle trips associated with the proposed parking supply.

Table 2 – Expected Future Parking Lot Related Vehicle Trips

Parking Lot	Parking Supply	Morning Peak Hour			Afternoon Peak Hour		
		IN	OUT	Total	IN	OUT	Total
West Parking Lot	80	38	5	43	5	24	29
East Parking Lot	451	215	29	244	26	136	162
Subtotal	531	253	34	287	31	160	191

Comparing Tables 1 and 2, it is expected that the future school related vehicle trips are expected to increase by about 60 during the Morning Peak Hour and by about 40 during the Afternoon Peak Hour. It is noted that these volumes do not include the numbers of buses that will be expected to use the West Parking Lot for drop-off and pick-up activities. The rerouting of existing bus volumes were conducted as part of the redistribution of assignment of site traffic discussed below.

Directional Distribution and Assignment of Site Traffic

The directional distribution of site traffic was determined based on an analysis of the existing traffic patterns at the study intersections, the roadway network and the school's attendance boundaries.

The expected distribution of future school traffic will be affected by the proposed vacating of Prince Street between Grant Street and Sherman Street, which is currently closed to traffic from 3:00 PM to 4:00 PM due to bus operations, and the changes to parking supply and locations of parking lot access points. This portion of Prince Street primarily serves the school and a residential area around the intersection of Prince Street and Grant Street. Vehicles seeking access to this residential area will be redirected primarily to Saratoga Avenue.

These aspects were considered when developing the directional distribution of traffic and assigning site traffic to the roadway network. The Future Background volumes discussed previously were rerouted based on the anticipated direction of approach to obtain the Total Future traffic volumes illustrated in Figures 6 and 7.

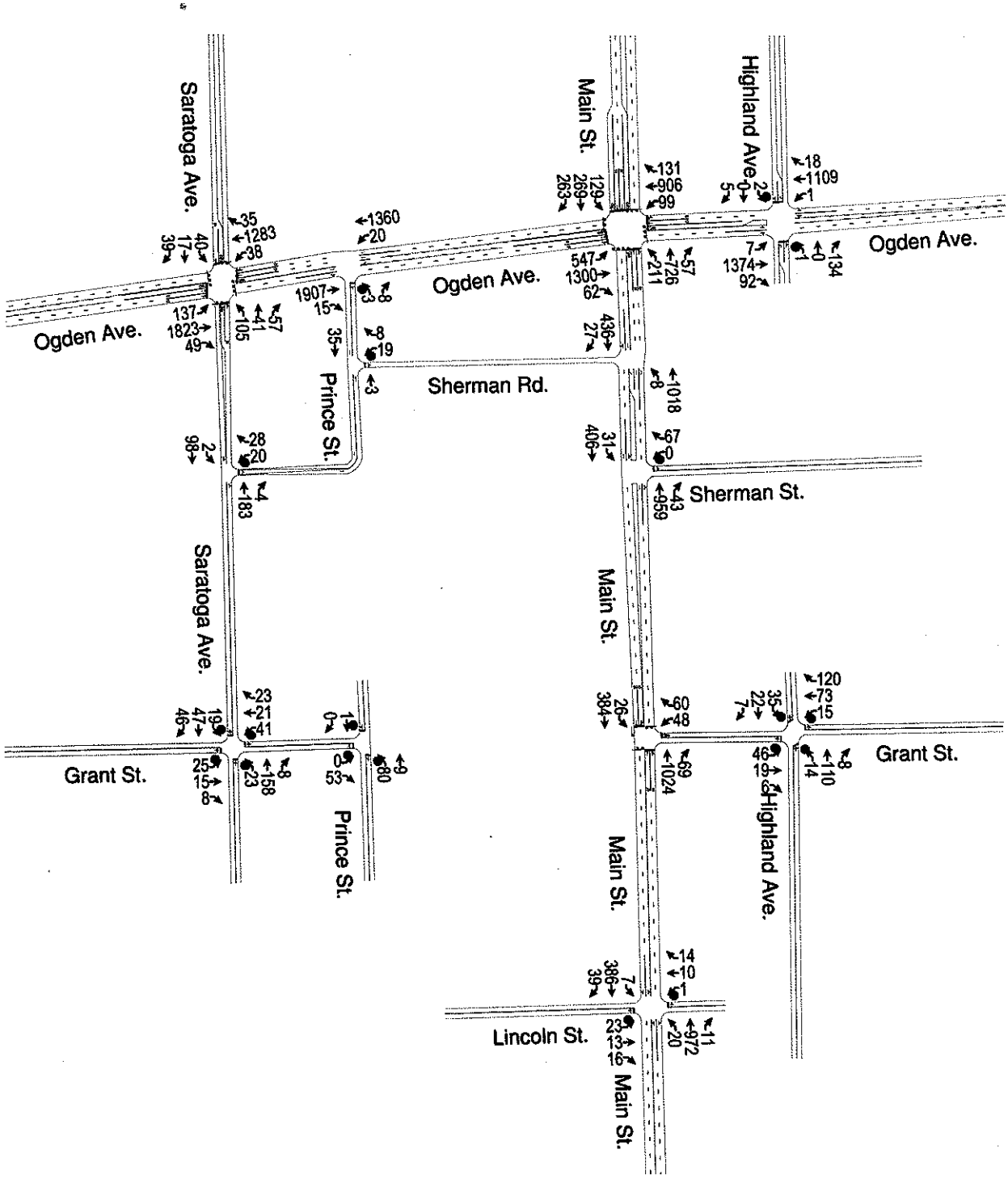


Figure 6: Total Future (2017) Morning Traffic Volumes

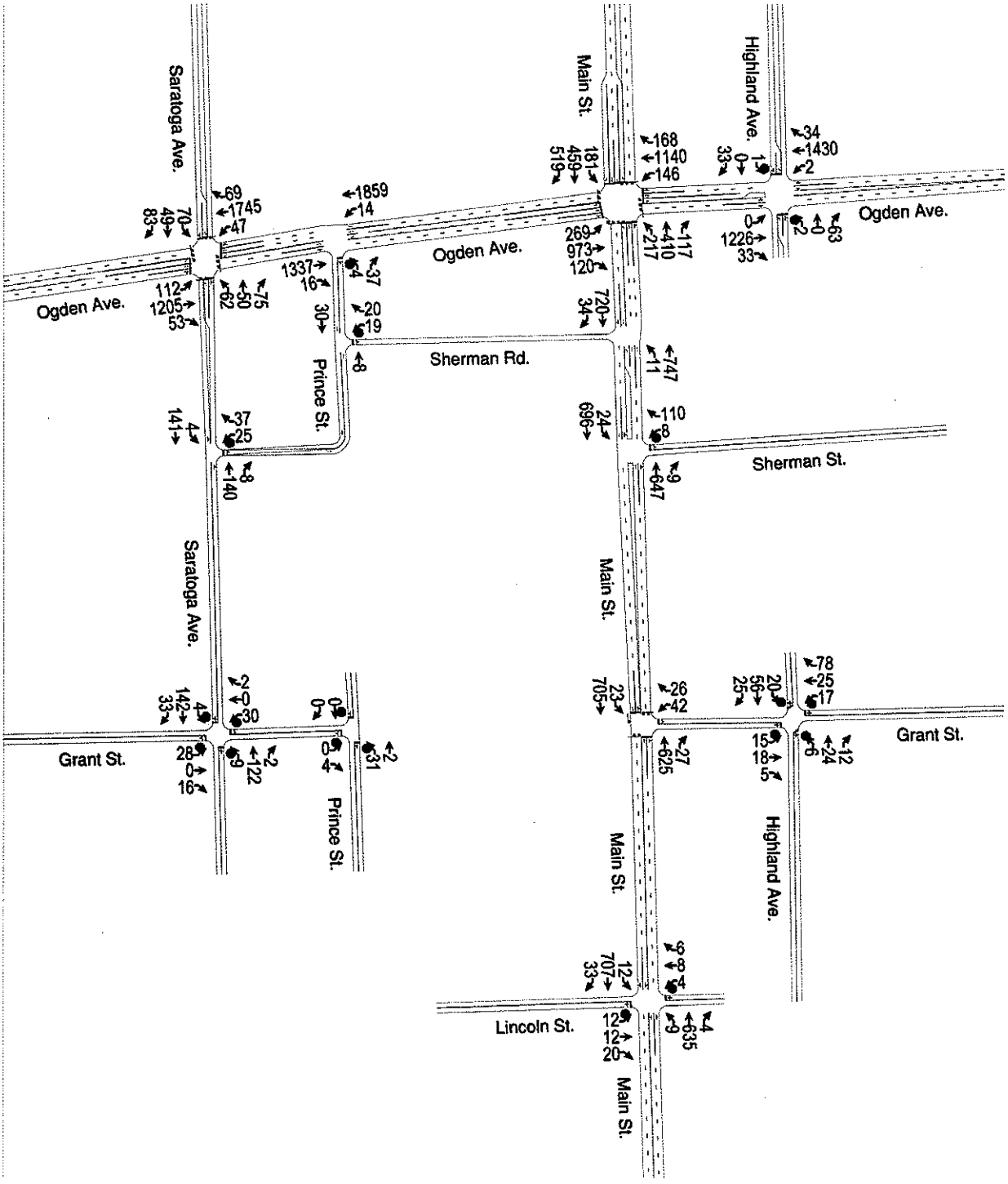


Figure 7: Total Future (2017) Afternoon Traffic Volumes

5. CAPACITY ANALYSIS

Intersection capacity analyses were performed for the study intersections during the Morning and Afternoon peak hours to determine their levels of service (LOS). LOS is a quality measure describing operational conditions within a traffic stream, generally in terms of such service measures as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience[1]. Version 8.0 of the Synchro software was used to calculate the LOS at each intersection in the Existing and Future scenarios. Operational LOS reflects delays experienced by the motorist and are designated a letter grade of A through F. LOS A represents the best operating conditions and LOS F the worst. LOS C or better is considered within acceptable limits. The *Highway Capacity Manual* defines level-of-service for signalized and unsignalized intersections as a function of the average vehicle control delay in seconds per vehicle (sec). The Synchro software models level-of-service based on *Highway Capacity Manual.* Level-of-service criteria are summarized in Table 3 below.

Table 3 – LOS criteria for Control Delay at Intersection

Level of Service Grade	Signalized Intersection (sec)	Unsignalized Intersection (sec)
A	≤10	≤10
B	10-20	10-15
C	20-35	15-25
D	35-55	25-35
E	55-80	35-50
F	≥80	≥50

Lane Configuration and Traffic Controls

The intersections of Ogden Avenue with both Saratoga Avenue and Main Street, along with the intersection of Grant Street and Main Street are currently signalized. The remaining study intersections are currently unsignalized and there are no known plans in place to signalize any of these intersections.

The intersection of **Ogden Avenue and Saratoga Avenue** has two-lane approaches in the eastbound and westbound directions, with additional left-turn lanes in both directions. The northbound and southbound directions have one through lane and an additional left-turn lane at the intersection. The intersection is signalized.

The intersection of **Sherman Street and Saratoga Avenue** has one-lane approaches in the north-, south-, and westbound directions. Sherman Street terminates at Saratoga Avenue to the west, forming a T-intersection. Westbound traffic along Sherman Street is stop-controlled at the intersection.

The intersection of **Grant Street and Saratoga Avenue** contains one-lane approaches in all four directions. The intersection is all-way stop controlled.

The intersection of **Ogden Avenue and Prince Street** has two-lane approaches in the eastbound and westbound directions, with an additional left-turn lane in the westbound direction. This turn lane is an extension of the westbound left-turn lane at Saratoga Avenue, and has only approximately 25 feet

[1] *Highway Capacity Manual 2000*, Transportation Research Board

of storage approaching Prince Street. The intersection has a one-lane approach in the northbound direction. Prince Street terminates at Ogden Avenue to the north, forming a T-intersection. Northbound traffic is stop-controlled at the intersection.

The intersection of **Sherman Road and Prince Street** contains one-lane approaches in the north-, south-, and westbound directions. Sherman Road terminates at Prince Street to the west, forming a T-intersection. Westbound traffic along Sherman Road is stop-controlled at the intersection.

The intersection of **Sherman Street and Prince Street** contains one-lane approaches in the north-, south-, and eastbound directions. Sherman Street terminates at Prince Street to the east, forming a T-intersection. Eastbound traffic along Sherman Street is stop-controlled at the intersection. With the proposed improvements and the proposed vacating of Prince Street between Grant Street and Sherman Street, this intersection will become a curve with traffic approaching in the southbound and eastbound directions, with no stop control.

The intersection of **Grant Street and Prince Street** contains one-lane approaches in the north-, south-, and eastbound directions. Grant Street terminates at Prince Street to the east, forming a T-intersection. All traffic is stop-controlled at the intersection. With the proposed improvements including the proposed vacating of Prince Street between Grant Street and Sherman Street and the construction of a parking lot, this intersection will continue to operate as a T-intersection with the parking lot driveway serving as the north leg of the intersection. All approaches will continue to be stop-controlled.

The intersection of **Ogden Avenue and Main Street** contains two-lane approaches in all four directions. There are also left-turn lanes at the intersection in all four directions, and a right-turn lane at the intersection in the southbound direction. The intersection is signalized.

The intersection of **Sherman Road and Main Street** contains two-lane approaches in the northbound and southbound directions, with an additional left-turn lane at the intersection in the northbound direction. Sherman Road terminates at Main Street to the east, forming a T-intersection. Traffic along Sherman Road operates one-way in the westbound direction, leaving no eastbound traffic or stop-control at the intersection.

The intersection of **Sherman Street and Main Street** has two-lane approaches in the northbound and southbound directions, and a one-lane approach in the westbound direction. Sherman Street terminates at Main Street to the west, forming a T-intersection. Westbound traffic along Sherman Street is stop-controlled at the intersection.

The intersection of **Grant Street and Main Street** has two-lane approaches in the northbound and southbound directions, and a one-lane approach in the westbound direction. Grant Street terminates at Main Street to the west, forming a T-intersection. The intersection is signalized, and also has a pedestrian-only phase for the crossing of both Main Street and Grant Street.

The intersection of **Lincoln Street and Main Street** contains two-lane approaches in both the northbound and southbound directions, and one-lane approaches in both the eastbound and westbound directions. The intersection is two-way stop-controlled, with the control on eastbound and westbound traffic along Lincoln Street.

The intersection of **Ogden Avenue and Highland Avenue** contains two-lane approaches in the eastbound and westbound directions. The northbound and southbound directions each contain one through lane and an additional left-turn lane at the intersection. Northbound and southbound traffic is stop-controlled at the intersection.

The intersection of **Grant Street and Highland Avenue** contains one-lane approaches in all four directions. The intersection is all-way stop controlled.

The existing traffic controls and lane configuration included in the capacity analyses are illustrated in Figure 8. Future expected traffic controls and lane configuration due to the vacating of Prince Street between Grant Street and Sherman Street are shown in Figure 9.

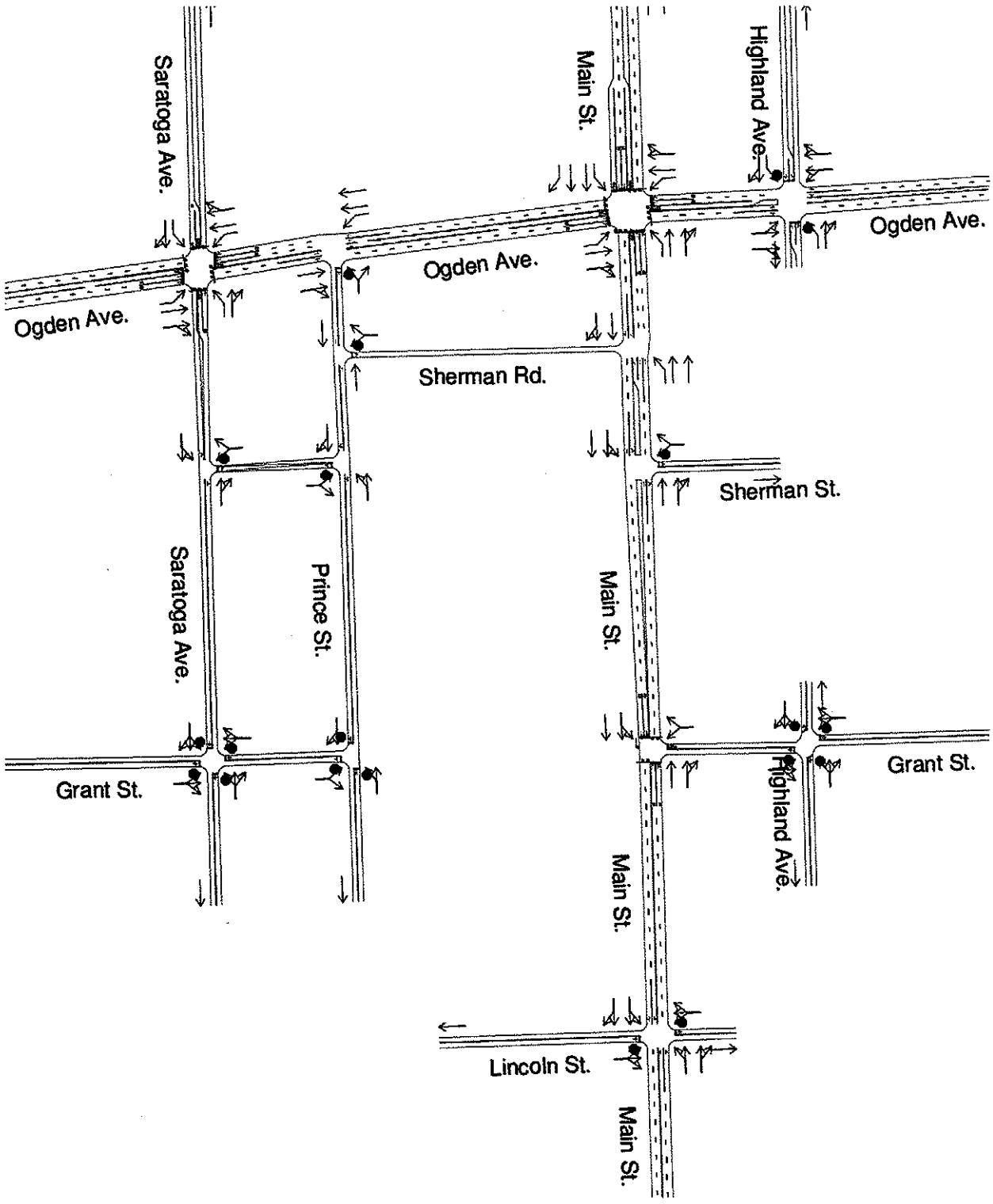


Figure 8: Existing Lane Configuration

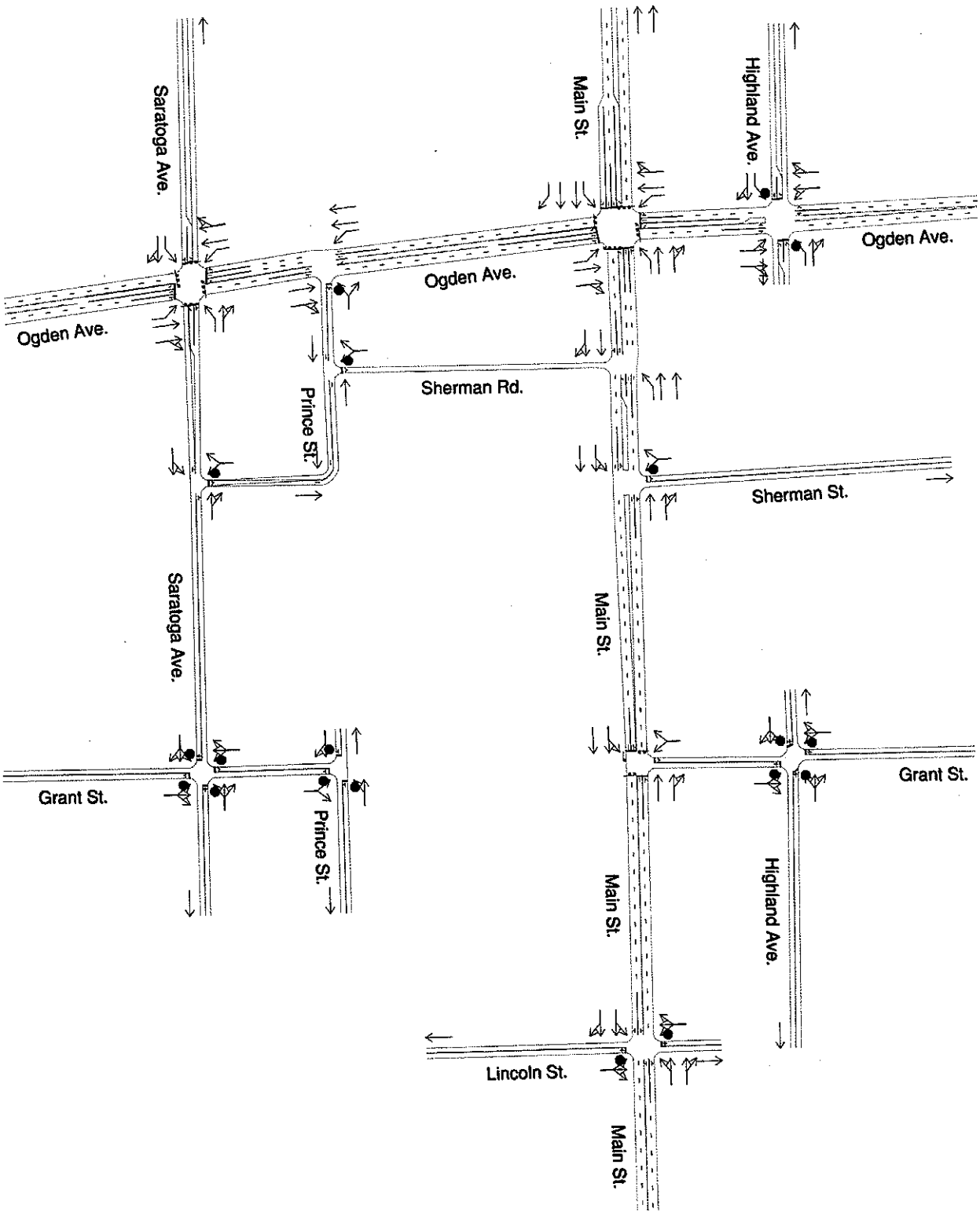


Figure 9: Proposed Future Lane Configuration

Table 4 includes the capacity analysis results for the Morning and Afternoon peak hours for both the existing and future scenarios.

Table 4 – Capacity Analysis Results

Intersection (Approach)	Time Period							
	Morning Peak Hour				*Afternoon Peak Hour*			
	Existing		Future		Existing		Future	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Ogden Avenue and Saratoga Avenue								
Overall	**22.4**	**C**	**26.0**	**C**	**23.8**	**C**	**27.5**	**C**
Northbound	49.4	D	44.8	D	41.1	D	40.4	D
Westbound	19.9	B	17.9	B	23.1	C	30.3	C
Eastbound	20.1	C	28.8	C	19.6	B	20.1	C
Southbound	44.4	D	41.1	D	40.7	D	40.7	D
Sherman Street and Saratoga Avenue								
Westbound	10.5	B	10.4	B	10.6	B	10.2	B
Grant Street and Saratoga Avenue								
Overall	**8.8**	**A**	**8.5**	**A**	**8.3**	**A**	**8.3**	**A**
Northbound	9.5	A	8.9	A	8.2	A	8.3	A
Westbound	8.3	A	8.3	A	8.0	A	8.1	A
Eastbound	8.5	A	8.2	A	8.0	A	7.9	A
Southbound	8.2	A	8.0	A	8.5	A	8.4	A
Ogden Avenue and Prince Street								
Northbound	14.6	B	17.4	C	10.9	B	11.0	B
Sherman Road and Prince Street								
Westbound	9.0	A	9.1	A	9.4	A	9.5	A
Sherman Street and Prince Street								
Eastbound	9.3	A	----	--	9.1	A	----	--
Grant Street and Prince Street								
Overall	**7.4**	**A**	**7.4**	**A**	**7.0**	**A**	**7.2**	**A**
Northbound	7.7	A	7.8	A	7.2	A	7.3	A
Southbound	6.7	A	6.5	A	6.8	A	6.9	A
Eastbound	7.4	A	6.8	A	6.5	A	6.4	A
Ogden Avenue and Main Street								
Overall	**69.5**	**E**	**76.7**	**E**	**54.8**	**D**	**59.0**	**E**
Northbound	52.6	E	44.4	D	43.6	D	40.7	D
Westbound	141.6	F	183.4	F	91.8	F	104.8	F
Eastbound	47.0	D	45.0	D	34.4	C	35.4	D
Southbound	34.1	C	33.4	C	39.2	D	40.8	D
Sherman Street and Main Street								
Westbound	11.9	B	10.1	B	11.8	B	10.4	B
Grant Street and Main Street								
Overall	**18.2**	**B**	**19.9**	**B**	**15.4**	**B**	**15.8**	**B**
Northbound	19.9	B	21.4	C	13.6	B	13.9	B
Westbound	29.4	C	29.6	C	30.0	C	30.7	C
Southbound	11.0	B	13.3	B	15.8	B	16.2	B

Table 4 – Capacity Analysis Results (continued)

Intersection (Approach)	Time Period							
	Morning Peak Hour				*Afternoon Peak Hour*			
	Existing		Future		Existing		Future	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Lincoln Street and Main Street								
Eastbound	31.8	D	34.3	D	30.2	D	24.1	C
Westbound	26.3	D	28.4	D	29.5	D	26.1	D
Ogden Avenue and Highland Avenue								
Northbound	11.6	B	12.3	B	10.4	B	10.5	B
Southbound	16.7	C	17.1	C	17.9	C	18.4	C
Grant Street and Highland Avenue								
Overall	**8.3**	**A**	**8.7**	**A**	**7.6**	**A**	**7.7**	**A**
Northbound	8.2	A	8.8	A	7.4	A	7.5	A
Westbound	8.5	A	8.8	A	7.5	A	7.6	A
Eastbound	8.1	A	8.4	A	7.6	A	7.7	A
Southbound	8.2	A	8.4	A	7.8	A	7.9	A

The capacity analysis found that the intersection of Ogden Avenue and Main Street is currently over capacity operating at an overall LOS E in the Morning and LOS D in the Afternoon with some approaches operating at LOS F. Additionally, the Saratoga Approaches to the signalized intersection with Ogden Avenue operate at LOS D in the Morning and Afternoon currently. The stop controlled approaches of Lincoln Street at Main Street also operate at LOS D today. The remaining intersections and approaches were found to operate at acceptable levels of service under existing conditions.

The future conditions capacity analysis found that the study intersections are expected to operate at the same level of service that they do currently with two exceptions. The overall LOS at the intersection of Ogden Avenue and Main Street is shown to operate at a LOS E in the future compared with a LOS D in the Afternoon today. It is noted however, that the existing Afternoon delay at this intersection is at the upper threshold of the LOS D designation. The overall delay is expected to increase only 4.2 seconds.

In general, the capacity analysis found that the proposed improvements, including the vacating of Prince Street as proposed, are expected to have minimal impact on the operations of the roadway network surrounding the school.

6. ADDITIONAL ANALYSIS

Pedestrians and Bicycles

The existing school generates a significant amount of pedestrian activity on the streets and intersections adjacent to and in the vicinity of the school. Pedestrian activity at the study intersections is primarily related to the school. The mode split discussed above indicates that about 22% of the students walk to school on a daily basis. While the number of students, and therefore the number of pedestrians, is not expected to increase with the proposed improvements, providing sufficient pedestrian accommodations and connections and addressing possible conflicts with vehicular traffic are an important aspect of the project.

The existing pedestrian crossing volume at the intersection of Grant Street and Main Street is expected to increase as a result of the proposed increase in parking supply east of Main Street. This crossing is currently served by a striped pedestrian crossing with ramps, pedestrian push-buttons, and a traffic signal that includes a pedestrian-only phase.

It is anticipated that the proposed parking area east of Main Street will be fenced along its west side, concentrating pedestrians to the crossing at the intersection of Main Street and Grant Street. A gate in the fence is proposed in the vicinity of the athletic fields. It is expected that this gate will remain closed on school days but may be opened for use by the school on days of athletic events. The gate is located mid-block along Main Street and no pedestrian crossing of the street is proposed in this location. Therefore, if the gate were to be used it is recommended that traffic control personnel be used at the location of the gate to facilitate a temporary crossing of Main Street for pedestrians between the athletic fields and the parking lot.

The use of bicycles as a mode of transport to and from a school is typically a small portion of all trips. Field observations indicated that approximately 1% of students bike to school, and the existing bike racks were sufficient to accommodate these students. The residential sidewalks and roadways around the proposed site generally appear to be bicycle-friendly. It is understood that the existing bike racks will remain in place after the proposed improvements to the school. These characteristics will continue to encourage students to bike to the school.

Proposed Vacating of Prince Street between Grant Street and Sherman Street

The proposed improvements at North High School include vacating Prince Street between Grant Street and Sherman Street as a result of the parking reconfiguration and athletic improvements. A residential block bounded by Prince Street on the east, Grant Street on the south, Saratoga Avenue on the west, and the existing North High School parking area on the north will also be converted into a future parking area. Approximately eight residences are included in this area.

The portion of Prince Street proposed to be vacated primarily serves the residential block that will be replaced by the future parking area. Residential areas to the south may also use Prince Street to access Ogden Avenue. In addition to residential traffic, Prince Street carries traffic to and from the school. All existing traffic along Prince Street between Grant Street and Sherman Street will be rerouted as a result of the proposed improvements.

Existing school traffic on this portion of Prince Street is primarily related to buses and the existing parking area. Existing bus operations allow buses to flow north on Prince Street, and to either turn west at Grant Street or Sherman Street and proceed to Saratoga Avenue or to turn east at Ogden Avenue. Future bus traffic will use the proposed parking area north of Grant Street, and will then exit to the west onto Saratoga Avenue. Effectively, northbound buses along Prince Street will be shifted from the intersection of Prince Street and Ogden Avenue to the intersection of Saratoga Street and Ogden Avenue. This intersection is signalized, allowing buses a better opportunity to turn onto Ogden Avenue.

Existing school traffic related to the parking area north of Grant Street accesses the parking lot from either Saratoga Avenue or Prince Street. All southbound vehicles accessing this area from Prince Street will be shifted onto Saratoga Avenue. Northbound vehicles accessing the parking area from Prince Street will still be able to maintain this route. Additionally, this parking area is planned to be reduced in size, resulting in less overall traffic in this area with a slight shift of the traffic from Prince Street onto Saratoga Avenue.

Residential traffic currently using the portion of Prince Street proposed to be vacated will be shifted onto other local streets, primarily Saratoga Avenue. Because the intersection of Saratoga Avenue and Ogden Avenue is signalized, it is expected that most of the current non-school related traffic destined for Ogden Avenue to the north already uses Saratoga Avenue as opposed to using Prince Street. Southbound traffic from Ogden Avenue would already use Saratoga Avenue as well, as the signalization provides better access to the area.

Some drop off activity currently occurs on the portion of Prince Street that is proposed to be vacated. It is expected that in the future, this activity will occur on Grant Street between Saratoga Avenue and Prince Street or on Prince Street south of Grant Street. This will somewhat concentrate this activity on the west side of the school which is currently spread out along Prince Street. The volume of cars projected to use this area is not expected to cause operational concerns. It is recommended, however, that the school consider creating and distributing guidelines for parents dropping off and picking up students to help encourage continued, smooth pick up / drop off operations.

Overall, traffic operations on the study roadway network adjacent to the school are expected to continue to function at a similar level of service as they do today with the proposed vacating of Prince Street between Sherman Street and Grant Street.

7. CONCLUSIONS AND RECOMMENDATIONS

The analysis presented in this report has resulted in the following conclusions and recommendations.

Conclusions

- The study intersections that currently operate above acceptable levels are expected to continue to do so with the proposed school improvements.
- The study intersections that currently do not operate at acceptable levels are not expected to be significantly impacted with the proposed school improvements.
- The vacating of Prince Street between Sherman Street and Grant Street is not expected to result in significant impacts to traffic flow within the study area.

Recommendations

RWA recommends that the following actions be taken to ensure efficient traffic operations:

- Utilization of the gate in the fence on the west side of the East Parking Lot to serve as a pedestrian connection between the parking and the athletic fields on game days will create the need for a temporary mid-block crossing of Main Street. It is recommended that traffic control personnel be utilized to facilitate this crossing at these times.
- Consider developing and communicating a plan for parents that drop off and pick up students to reduce any confusion or conflicts that may arise from changing traffic patterns associated with the vacating of the portion of Prince Street.

Appendix A

Existing Traffic Data Collection Reports

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Regina Webster & Associates, Inc.
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773-283-2600 Fax: 773-283-2602
www.RWAengineers.com

Grant St & Highland Ave
Downers Grove, IL
7:00 AM - 9:00 AM
Sunny, Dry

File Name : Grant St & Highland Ave Am
Site Code : 00000000
Start Date : 9/8/2011
Page No : 1

Groups Printed- PCs - SUs - MUs

	Highland Ave Southbound					Grant St Westbound					Highland Ave Northbound					Grant St Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	1	4	0	3	8	12	5	4	0	21	0	11	1	3	15	1	0	5	3	9	53
07:15 AM	1	7	5	3	16	32	13	2	2	49	0	24	3	4	31	2	4	4	2	12	108
07:30 AM	3	8	8	13	32	44	32	8	1	85	2	25	3	19	49	2	7	11	3	23	189
07:45 AM	4	5	23	20	52	54	24	3	1	82	3	18	6	9	36	2	6	17	0	25	195
Total	9	24	36	39	108	142	74	17	4	237	5	78	13	35	131	7	17	37	8	69	545
08:00 AM	0	2	2	0	4	12	12	2	0	26	3	10	0	0	13	0	2	15	1	18	61
08:15 AM	0	5	2	5	12	12	5	2	5	24	0	11	0	2	13	0	1	3	2	6	55
08:30 AM	0	6	1	1	8	10	2	2	0	14	0	2	0	0	2	1	2	2	0	5	29
08:45 AM	2	4	3	2	11	17	4	1	2	24	0	7	1	3	11	1	1	2	0	4	50
Total	2	17	8	8	35	51	23	7	7	88	3	30	1	5	39	2	6	22	3	33	195
Grand Total	11	41	44	47	143	193	97	24	11	325	8	108	14	40	170	9	23	59	11	102	740
Apprch %	7.7	28.7	30.8	32.9		59.4	29.8	7.4	3.4		4.7	63.5	8.2	23.5		8.8	22.5	57.8	10.8		
Total %	1.5	5.5	5.9	6.4	19.3	26.1	13.1	3.2	1.5	43.9	1.1	14.6	1.9	5.4	23	1.2	3.1	8	1.5	13.8	
PCs	11	40	44	36	131	193	96	24	3	316	8	108	14	6	136	9	22	56	9	96	679
% PCs	100	97.6	100	76.6	91.6	100	99	100	27.3	97.2	100	100	100	15	80	100	95.7	94.9	81.8	94.1	91.8
SUs	0	1	0	11	12	0	1	0	8	9	0	0	0	3	3	0	1	3	2	6	30
% SUs	0	2.4	0	23.4	8.4	0	1	0	72.7	2.8	0	0	0	7.5	1.8	0	4.3	5.1	18.2	5.9	4.1
MUs	0	0	0	0	0	0	0	0	0	0	0	0	0	31	31	0	0	0	0	0	31
% MUs	0	0	0	0	0	0	0	0	0	0	0	0	0	77.5	18.2	0	0	0	0	0	4.2

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Grant St & Highland Ave
Downers Grove, IL
2:00 PM - 4:00 PM
Sunny, Dry

File Name : Grant St & Highland Ave Pm
Site Code : 00000000
Start Date : 9/8/2011
Page No : 1

Groups Printed- PCs - SUs - MUs

	Highland Ave Southbound					Grant St Westbound					Highland Ave Northbound					Grant St Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
02:00 PM	0	2	3	1	6	11	3	0	0	14	1	2	1	0	4	2	5	0	0	7	31
02:15 PM	1	7	3	2	13	8	9	3	1	21	0	5	1	0	6	0	2	0	2	4	44
02:30 PM	0	7	7	4	18	13	7	2	0	22	1	3	1	11	16	5	3	1	2	11	67
02:45 PM	3	3	1	2	9	12	3	3	0	18	3	5	0	0	8	1	0	3	0	4	39
Total	4	19	14	9	46	44	22	8	1	75	5	15	3	11	34	8	10	4	4	26	181
03:00 PM	1	3	3	1	8	19	4	1	0	24	1	1	0	1	3	1	1	5	0	7	42
03:15 PM	5	11	9	37	62	30	8	8	3	49	6	6	4	25	41	2	5	5	3	15	167
03:30 PM	3	15	11	21	50	17	9	4	6	36	4	5	1	15	25	0	5	3	8	16	127
03:45 PM	2	10	6	5	23	9	4	4	2	19	1	4	0	2	7	2	7	2	0	11	60
Total	11	39	29	64	143	75	25	17	11	128	12	16	5	43	76	5	18	15	11	49	396
Grand Total	15	58	43	73	189	119	47	25	12	203	17	31	8	54	110	13	28	19	15	75	577
Apprch %	7.9	30.7	22.8	38.6		58.6	23.2	12.3	5.9		15.5	28.2	7.3	49.1		17.3	37.3	25.3	20		
Total %	2.6	10.1	7.5	12.7	32.8	20.6	8.1	4.3	2.1	35.2	2.9	5.4	1.4	9.4	19.1	2.3	4.9	3.3	2.6	13	
PCs	14	57	43	60	174	116	44	24	6	190	16	30	8	27	81	12	27	19	14	72	517
% PCs	93.3	98.3	100	82.2	92.1	97.5	93.6	96	50	93.6	94.1	96.8	100	50	73.6	92.3	96.4	100	93.3	96	89.6
SUs	1	1	0	13	15	3	3	1	6	13	1	1	0	1	3	1	1	0	1	3	34
% SUs	6.7	1.7	0	17.8	7.9	2.5	6.4	4	50	6.4	5.9	3.2	0	1.9	2.7	7.7	3.6	0	6.7	4	5.9
MUs	0	0	0	0	0	0	0	0	0	0	0	0	0	26	26	0	0	0	0	0	26
% MUs	0	0	0	0	0	0	0	0	0	0	0	0	0	48.1	23.6	0	0	0	0	0	4.5

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Grant St & Prince St
Downers Grove, IL
7:00 AM - 9:00 AM
Sunny, Dry

File Name : Grant St & Prince St Am
Site Code : 00000000
Start Date : 9/7/2011
Page No : 1

Groups Printed- PCs - Sus - Mus

	Prince St Southbound					Grant St Westbound					Prince St Northbound					Grant St Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	4	1	0	0	5	2	1	0	1	4	0	8	3	2	13	0	0	2	0	2	24
07:15 AM	5	0	1	0	6	0	0	0	2	2	0	20	4	19	43	2	0	7	1	10	61
07:30 AM	15	0	1	1	17	1	0	0	1	2	0	12	20	30	62	3	0	18	0	21	102
07:45 AM	13	2	1	0	16	0	0	0	2	2	0	14	20	24	58	6	0	11	1	18	94
Total	37	3	3	1	44	3	1	0	6	10	0	54	47	75	176	11	0	38	2	51	281
08:00 AM	0	0	1	0	1	0	0	0	0	0	0	5	4	4	13	1	0	0	1	2	16
08:15 AM	0	2	0	0	2	0	0	0	0	0	0	10	4	0	14	1	0	0	0	1	17
08:30 AM	1	1	1	0	3	0	1	1	1	3	1	8	4	1	14	0	1	0	0	1	21
08:45 AM	0	4	0	0	4	0	2	0	2	4	0	3	1	1	5	0	1	1	0	2	15
Total	1	7	2	0	10	0	3	1	3	7	1	26	13	6	46	2	2	1	1	6	69
Grand Total	38	10	5	1	54	3	4	1	9	17	1	80	60	81	222	13	2	39	3	57	350
Apprch %	70.4	18.5	9.3	1.9		17.6	23.5	5.9	52.9		0.5	36	27	36.5		22.8	3.5	68.4	5.3		
Total %	10.9	2.9	1.4	0.3	15.4	0.9	1.1	0.3	2.6	4.9	0.3	22.9	17.1	23.1	63.4	3.7	0.6	11.1	0.9	16.3	
PCs	36	9	3	1	49	2	3	1	5	11	1	60	56	77	194	12	2	38	1	53	307
% PCs	94.7	90	60	100	90.7	66.7	75	100	55.6	64.7	100	75	93.3	95.1	87.4	92.3	100	97.4	33.3	93	87.7
Sus	1	1	2	0	4	0	1	0	4	5	0	20	4	4	28	1	0	1	2	4	41
% Sus	2.6	10	40	0	7.4	0	25	0	44.4	29.4	0	25	6.7	4.9	12.6	7.7	0	2.6	66.7	7	11.7
Mus	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
% Mus	2.6	0	0	0	1.9	33.3	0	0	0	5.9	0	0	0	0	0	0	0	0	0	0	0.6

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Grant St & Prince St
Downers Grove, IL
2:00 PM - 4:00 PM
Sunny, Dry

File Name : Grant St & Prince St Pm
Site Code : 00000000
Start Date : 9/7/2011
Page No : 1

Groups Printed- PCs - SUs - MUs

	Prince St Southbound					Grant St Westbound					Prince St Northbound					Grant St Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
02:00 PM	2	7	0	0	9	0	0	0	1	1	0	2	1	0	3	1	0	1	0	2	15
02:15 PM	1	6	1	0	8	1	0	0	0	1	0	3	0	0	3	0	2	0	0	2	14
02:30 PM	2	5	0	1	8	0	0	1	7	8	0	4	1	6	11	3	0	1	0	4	31
02:45 PM	1	6	1	0	8	0	1	0	0	1	0	0	1	1	2	2	0	0	0	2	13
Total	6	24	2	1	33	1	1	1	8	11	0	9	3	7	19	6	2	2	0	10	73
03:00 PM	1	0	1	0	2	1	0	0	12	13	1	8	0	5	14	1	0	0	1	2	31
03:15 PM	1	2	0	6	9	0	0	0	30	30	0	9	0	58	67	0	0	0	1	1	107
03:30 PM	4	4	0	0	8	0	0	0	30	30	0	4	4	16	24	0	0	0	5	5	67
03:45 PM	2	8	1	0	11	0	1	0	30	31	0	3	3	4	10	0	0	0	0	0	52
Total	8	14	2	6	30	1	1	0	102	104	1	24	7	83	115	1	0	0	7	8	257
Grand Total	14	38	4	7	63	2	2	1	110	115	1	33	10	90	134	7	2	2	7	18	330
Apprch %	22.2	60.3	6.3	11.1		1.7	1.7	0.9	95.7		0.7	24.6	7.5	67.2		38.9	11.1	11.1	38.9		
Total %	4.2	11.5	1.2	2.1	19.1	0.6	0.6	0.3	33.3	34.8	0.3	10	3	27.3	40.6	2.1	0.6	0.6	2.1	5.5	
PCs	11	35	4	6	56	2	2	0	109	113	1	16	3	87	107	7	2	2	7	18	294
% PCs	78.6	92.1	100	85.7	88.9	100	100	0	99.1	98.3	100	48.5	30	96.7	79.9	100	100	100	100	100	89.1
SUs	3	3	0	1	7	0	0	1	1	2	0	17	7	3	27	0	0	0	0	0	36
% SUs	21.4	7.9	0	14.3	11.1	0	0	100	0.9	1.7	0	51.5	70	3.3	20.1	0	0	0	0	0	10.9
MUs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% MUs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Downers Grove, IL
7:00 AM - 9:00 AM
Sunny, Dry

File Name : Grant St & Saratoga Ave Am
Site Code : 00000000
Start Date : 9/7/2011
Page No : 1

Groups Printed- PCs - SUs - MUs

	Saratoga Ave Southbound					Grant St Westbound					Saratoga Ave Northbound					Grant St Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	3	6	0	0	9	4	3	1	0	8	2	29	2	0	33	2	0	5	1	8	58
07:15 AM	4	14	3	0	21	3	2	4	0	9	5	53	4	9	71	3	2	9	0	14	115
07:30 AM	12	17	12	0	41	12	15	8	0	35	3	86	5	14	108	0	6	4	0	10	194
07:45 AM	16	15	7	2	40	16	14	7	1	38	3	69	8	19	99	4	8	13	1	26	203
Total	35	52	22	2	111	35	34	20	1	90	13	237	19	42	311	9	16	31	2	58	570
08:00 AM	2	7	0	1	10	4	2	0	0	6	2	29	4	8	43	0	0	6	3	9	68
08:15 AM	6	15	0	0	21	2	1	0	0	3	0	15	6	1	22	4	1	7	6	18	64
08:30 AM	8	16	0	1	25	1	3	0	4	8	0	23	7	8	38	3	1	7	1	12	83
08:45 AM	4	18	0	0	22	2	1	1	1	5	1	24	2	0	27	6	1	7	3	17	71
Total	20	56	0	2	78	9	7	1	5	22	3	91	19	17	130	13	3	27	13	56	286
Grand Total	55	108	22	4	189	44	41	21	6	112	16	328	38	59	441	22	19	58	15	114	856
Apprch %	29.1	57.1	11.6	2.1		39.3	36.6	18.8	5.4		3.6	74.4	8.6	13.4		19.3	16.7	50.9	13.2		
Total %	6.4	12.6	2.6	0.5	22.1	5.1	4.8	2.5	0.7	13.1	1.9	38.3	4.4	6.9	51.5	2.6	2.2	6.8	1.8	13.3	
PCs	54	100	21	0	175	43	38	19	1	101	15	327	37	56	435	19	19	55	6	99	810
% PCs	98.2	92.6	95.5	0	92.6	97.7	92.7	90.5	16.7	90.2	93.8	99.7	97.4	94.9	98.6	86.4	100	94.8	40	86.8	94.6
SUs	1	8	1	4	14	1	3	2	5	11	1	1	1	3	6	3	0	3	9	15	46
% SUs	1.8	7.4	4.5	100	7.4	2.3	7.3	9.5	83.3	9.8	6.2	0.3	2.6	5.1	1.4	13.6	0	5.2	60	13.2	5.4
MUs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% MUs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Downers Grove, IL
2:00 PM - 4:00 PM
Sunny, Dry

File Name : Grant St & Saratoga Ave Pm
Site Code : 00000000
Start Date : 9/7/2011
Page No : 1

Groups Printed- PCs - SUs - MUs

	SARATOGA Southbound					GRANT Westbound					SARATOGA Northbound					GRANT Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
02:00 PM	2	17	0	0	19	1	2	0	0	3	0	13	0	3	16	0	2	2	1	5	43
02:15 PM	1	22	0	0	23	0	1	0	0	1	1	23	1	3	28	0	2	4	0	6	58
02:30 PM	8	45	1	0	54	3	0	0	1	4	1	30	2	3	36	3	1	2	2	8	102
02:45 PM	8	23	1	0	32	2	1	0	0	3	0	14	5	13	32	13	2	10	1	26	93
Total	19	107	2	0	128	6	4	0	1	11	2	80	8	22	112	16	7	18	4	45	296
03:00 PM	8	29	1	0	38	1	0	1	0	2	1	24	4	2	31	1	0	3	0	4	75
03:15 PM	14	43	0	3	60	0	0	1	2	3	0	36	1	41	78	12	0	15	3	30	171
03:30 PM	6	63	0	0	69	1	0	6	2	9	0	37	2	17	56	2	0	6	2	10	144
03:45 PM	7	24	1	1	33	0	0	6	0	6	0	24	2	6	32	1	0	5	3	9	80
Total	35	159	2	4	200	2	0	14	4	20	1	121	9	66	197	16	0	29	8	53	470
Grand Total	54	266	4	4	328	8	4	14	5	31	3	201	17	88	309	32	7	47	12	98	766
Apprch %	16.5	81.1	1.2	1.2		25.8	12.9	45.2	16.1		1	65	5.5	28.5		32.7	7.1	48	12.2		
Total %	7	34.7	0.5	0.5	42.8	1	0.5	1.8	0.7	4	0.4	26.2	2.2	11.5	40.3	4.2	0.9	6.1	1.6	12.8	
PCs	48	256	4	3	311	6	4	6	4	20	3	196	16	85	300	32	7	46	6	91	722
% PCs	88.9	96.2	100	75	94.8	75	100	42.9	80	64.5	100	97.5	94.1	96.6	97.1	100	100	97.9	50	92.9	94.3
SUs	6	10	0	1	17	2	0	8	1	11	0	5	1	3	9	0	0	1	6	7	44
% SUs	11.1	3.8	0	25	5.2	25	0	57.1	20	35.5	0	2.5	5.9	3.4	2.9	0	0	2.1	50	7.1	5.7
MUs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% MUs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Main St & Grant St
Downers Grove, IL
7:00 AM - 9:00 AM
Sunny, Dry

File Name : Main St & Grant St AM
Site Code : 00000000
Start Date : 9/8/2011
Page No : 1

Groups Printed- PCs - SUs - MUs

	Main St Southbound					Grant St Westbound					Main St Northbound					Grant St Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	70	5	49	124	7	0	5	0	12	8	198	0	2	208	0	0	0	0	0	344
07:15 AM	0	81	4	80	165	14	0	2	1	17	5	174	0	2	181	0	0	0	0	0	363
07:30 AM	0	88	5	137	230	25	0	15	1	41	23	267	0	16	306	0	0	0	1	1	578
07:45 AM	0	116	13	138	267	19	0	24	0	43	20	275	0	16	311	0	0	0	0	0	621
Total	0	355	27	404	786	65	0	46	2	113	56	914	0	36	1006	0	0	0	1	1	1906
08:00 AM	0	90	5	8	103	8	0	4	1	13	12	235	0	2	249	0	0	0	0	0	365
08:15 AM	0	81	3	10	94	4	0	4	0	8	2	202	0	0	204	0	0	0	0	0	306
08:30 AM	0	121	5	7	133	3	0	0	1	4	3	161	0	1	165	0	0	0	0	0	302
08:45 AM	0	109	4	14	127	3	0	2	0	5	2	280	0	1	283	0	0	0	0	0	415
Total	0	401	17	39	457	18	0	10	2	30	19	878	0	4	901	0	0	0	0	0	1388
Grand Total	0	756	44	443	1243	83	0	56	4	143	75	1792	0	40	1907	0	0	0	1	1	3294
Apprch %	0	60.8	3.5	35.6		58	0	39.2	2.8		3.9	94	0	2.1		0	0	0	100		
Total %	0	23	1.3	13.4	37.7	2.5	0	1.7	0.1	4.3	2.3	54.4	0	1.2	57.9	0	0	0	0	0	
PCs	0	710	43	431	1184	83	0	55	1	139	72	1747	0	39	1858	0	0	0	0	0	3181
% PCs	0	93.9	97.7	97.3	95.3	100	0	98.2	25	97.2	96	97.5	0	97.5	97.4	0	0	0	0	0	96.6
SUs	0	44	1	12	57	0	0	1	3	4	3	44	0	1	48	0	0	0	1	1	110
% SUs	0	5.8	2.3	2.7	4.6	0	0	1.8	75	2.8	4	2.5	0	2.5	2.5	0	0	0	100	100	3.3
MUs	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
% MUs	0	0.3	0	0	0.2	0	0	0	0	0	0	0.1	0	0	0.1	0	0	0	0	0	0.1

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Main St & Grant St
Downers Grove, IL
2:00 PM - 4:00 PM
Sunny, Dry

File Name : Main St & Grant St PM
Site Code : 00000000
Start Date : 9/8/2011
Page No : 1

Groups Printed- PCs - SUs - MUs

	Main St Southbound					Grant St Westbound					Main St Northbound					Grant St Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
02:00 PM	0	154	5	5	164	5	0	2	0	7	4	109	0	0	113	0	0	0	0	0	284
02:15 PM	0	157	3	53	213	4	0	4	0	8	1	129	0	1	131	0	0	0	0	0	352
02:30 PM	0	144	4	17	165	7	0	4	1	12	2	136	0	1	139	0	0	0	0	0	316
02:45 PM	0	185	2	10	197	3	0	3	1	7	4	136	0	1	141	0	0	0	0	0	345
Total	0	640	14	85	739	19	0	13	2	34	11	510	0	3	524	0	0	0	0	0	1297
03:00 PM	0	162	3	10	175	4	0	3	0	7	8	154	0	5	167	0	0	0	0	0	349
03:15 PM	0	166	8	141	315	11	0	8	2	21	12	135	0	39	186	0	0	0	1	1	523
03:30 PM	0	188	3	106	297	8	0	11	0	19	5	175	0	4	184	0	0	0	0	0	500
03:45 PM	0	173	8	53	234	7	0	4	0	11	8	143	0	2	153	0	0	0	0	0	398
Total	0	689	22	310	1021	30	0	26	2	58	33	607	0	50	690	0	0	0	1	1	1770
Grand Total	0	1329	36	395	1760	49	0	39	4	92	44	1117	0	53	1214	0	0	0	1	1	3067
Apprch %	0	75.5	2	22.4		53.3	0	42.4	4.3		3.6	92	0	4.4		0	0	0	100		
Total %	0	43.3	1.2	12.9	57.4	1.6	0	1.3	0.1	3	1.4	36.4	0	1.7	39.6	0	0	0	0	0	
PCs	0	1280	34	389	1703	47	0	37	3	87	44	1087	0	52	1183	0	0	0	1	1	2974
% PCs	0	96.3	94.4	98.5	96.8	95.9	0	94.9	75	94.6	100	97.3	0	98.1	97.4	0	0	0	100	100	97
SUs	0	44	2	6	52	2	0	2	1	5	0	28	0	1	29	0	0	0	0	0	86
% SUs	0	3.3	5.6	1.5	3	4.1	0	5.1	25	5.4	0	2.5	0	1.9	2.4	0	0	0	0	0	2.8
MUs	0	5	0	0	5	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	7
% MUs	0	0.4	0	0	0.3	0	0	0	0	0	0	0.2	0	0	0.2	0	0	0	0	0	0.2

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Main St & Lincoln St
Downers Grove, IL
7:00 AM - 9:00 AM
Sunny, Dry

File Name : Lincoln St & Main St AM
Site Code : 00000000
Start Date : 9/8/2011
Page No : 1

Groups Printed- PCs - SUs - MUs

	Main St Southbound					Lincoln St Westbound					Main St Northbound					Lincoln St Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	6	68	1	0	75	2	1	1	1	5	1	169	3	1	174	0	2	9	1	12	266
07:15 AM	12	68	3	0	83	2	1	0	1	4	4	158	5	2	169	2	2	8	1	13	269
07:30 AM	14	88	1	0	103	5	2	0	5	12	4	254	11	0	269	8	3	8	6	25	409
07:45 AM	20	116	4	0	140	3	6	1	1	11	5	242	4	0	251	6	5	7	0	18	420
Total	52	340	9	0	401	12	10	2	8	32	14	823	23	3	863	16	12	32	8	68	1364
08:00 AM	1	92	1	0	94	4	1	0	2	7	1	228	2	0	231	1	5	5	1	12	344
08:15 AM	5	79	1	0	85	2	1	0	0	3	1	194	3	0	198	1	0	3	0	4	290
08:30 AM	5	116	0	1	122	3	7	1	1	12	0	135	5	1	141	2	4	3	3	12	287
08:45 AM	1	110	0	0	111	4	0	0	1	5	5	241	1	0	247	4	3	4	0	11	374
Total	12	397	2	1	412	13	9	1	4	27	7	798	11	1	817	8	12	15	4	39	1295
Grand Total	64	737	11	1	813	25	19	3	12	59	21	1621	34	4	1680	24	24	47	12	107	2659
Apprch %	7.9	90.7	1.4	0.1		42.4	32.2	5.1	20.3		1.2	96.5	2	0.2		22.4	22.4	43.9	11.2		
Total %	2.4	27.7	0.4	0	30.6	0.9	0.7	0.1	0.5	2.2	0.8	61	1.3	0.2	63.2	0.9	0.9	1.8	0.5	4	
PCs	56	698	11	1	766	25	18	3	11	57	20	1573	29	1	1623	22	24	47	11	104	2550
% PCs	87.5	94.7	100	100	94.2	100	94.7	100	91.7	96.6	95.2	97	85.3	25	96.6	91.7	100	100	91.7	97.2	95.9
SUs	7	38	0	0	45	0	1	0	1	2	1	47	5	3	56	2	0	0	1	3	106
% SUs	10.9	5.2	0	0	5.5	0	5.3	0	8.3	3.4	4.8	2.9	14.7	75	3.3	8.3	0	0	8.3	2.8	4
MUs	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
% MUs	1.6	0.1	0	0	0.2	0	0	0	0	0	0	0.1	0	0	0.1	0	0	0	0	0	0.1

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Main St & Lincoln St
Downers Grove, IL
2:00 PM - 4:00 PM
Sunny, Dry

File Name : Lincoln St & Main St PM
Site Code : 00000000
Start Date : 9/8/2011
Page No : 1

Groups Printed- PCs - SUs - MUs

	Main St Southbound					Lincoln St Westbound					Main St Northbound					Lincoln St Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
02:00 PM	3	149	4	0	156	1	0	0	0	1	3	109	1	0	113	0	2	2	0	4	274
02:15 PM	10	149	2	0	161	4	1	1	0	6	1	128	5	0	134	1	2	1	0	4	305
02:30 PM	5	141	2	1	149	0	2	0	3	5	0	134	3	0	137	3	3	4	1	11	302
02:45 PM	5	180	3	0	188	3	1	0	1	5	0	114	2	0	116	2	2	0	0	4	313
Total	23	619	11	1	654	8	4	1	4	17	4	485	11	0	500	6	9	7	1	23	1194
03:00 PM	15	149	1	1	166	1	3	2	0	6	0	155	5	0	160	2	0	1	0	3	335
03:15 PM	2	169	3	3	177	2	2	1	1	6	3	141	3	1	148	7	8	2	8	25	356
03:30 PM	10	185	4	2	201	0	2	1	0	3	1	172	0	0	173	11	2	7	4	24	401
03:45 PM	6	167	4	0	177	3	1	0	1	5	0	153	1	0	154	0	2	3	7	12	348
Total	33	670	12	6	721	6	8	4	2	20	4	621	9	1	635	20	12	13	19	64	1440
Grand Total	56	1289	23	7	1375	14	12	5	6	37	8	1106	20	1	1135	26	21	20	20	87	2634
Apprch %	4.1	93.7	1.7	0.5		37.8	32.4	13.5	16.2		0.7	97.4	1.8	0.1		29.9	24.1	23	23		
Total %	2.1	48.9	0.9	0.3	52.2	0.5	0.5	0.2	0.2	1.4	0.3	42	0.8	0	43.1	1	0.8	0.8	0.8	3.3	
PCs	47	1248	22	4	1321	13	11	4	4	32	6	1077	16	0	1099	23	21	20	20	84	2536
% PCs	83.9	96.8	95.7	57.1	96.1	92.9	91.7	80	66.7	86.5	75	97.4	80	0	96.8	88.5	100	100	100	96.6	96.3
SUs	9	36	1	3	49	1	1	1	2	5	2	27	4	1	34	3	0	0	0	3	91
% SUs	16.1	2.8	4.3	42.9	3.6	7.1	8.3	20	33.3	13.5	25	2.4	20	100	3	11.5	0	0	0	3.4	3.5
MUs	0	5	0	0	5	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	7
% MUs	0	0.4	0	0	0.4	0	0	0	0	0	0	0.2	0	0	0.2	0	0	0	0	0	0.3

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Main St & Sherman St
Downers Grove, IL
7:00 AM - 9:00 AM
Sunny, Dry

File Name : Main St & Sherman St AM
Site Code : 00000000
Start Date : 9/8/2011
Page No : 1

Groups Printed- PCs - SUs - MUs

	Main St Southbound					Sherman St Westbound					Main St Northbound					Sherman St Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	78	9	0	87	7	0	0	2	9	7	172	0	0	179	0	0	0	0	0	275
07:15 AM	0	76	8	0	84	14	0	0	1	15	4	173	0	0	177	0	0	0	0	0	276
07:30 AM	0	92	9	0	101	15	0	0	3	18	5	264	0	4	273	0	0	0	0	0	392
07:45 AM	0	125	4	0	129	27	0	0	7	34	10	241	0	1	252	0	0	0	0	0	415
Total	0	371	30	0	401	63	0	0	13	76	26	850	0	5	881	0	0	0	0	0	1358
08:00 AM	0	95	5	0	100	14	0	0	2	16	6	227	0	0	233	0	0	0	0	0	349
08:15 AM	0	84	1	0	85	9	0	0	1	10	2	199	0	1	202	0	0	0	0	0	297
08:30 AM	0	111	3	0	114	12	0	0	1	13	2	139	0	0	141	0	0	0	0	0	268
08:45 AM	0	111	6	0	117	16	0	0	1	17	5	245	0	0	250	0	0	0	0	0	384
Total	0	401	15	0	416	51	0	0	5	56	15	810	0	1	826	0	0	0	0	0	1298
Grand Total	0	772	45	0	817	114	0	0	18	132	41	1660	0	6	1707	0	0	0	0	0	2656
Apprch %	0	94.5	5.5	0		86.4	0	0	13.6		2.4	97.2	0	0.4		0	0	0	0		
Total %	0	29.1	1.7	0	30.8	4.3	0	0	0.7	5	1.5	62.5	0	0.2	64.3	0	0	0	0	0	
PCs	0	726	44	0	770	114	0	0	16	130	40	1616	0	6	1662	0	0	0	0	0	2562
% PCs	0	94	97.8	0	94.2	100	0	0	88.9	98.5	97.6	97.3	0	100	97.4	0	0	0	0	0	96.5
SUs	0	43	1	0	44	0	0	0	2	2	1	43	0	0	44	0	0	0	0	0	90
% SUs	0	5.6	2.2	0	5.4	0	0	0	11.1	1.5	2.4	2.6	0	0	2.6	0	0	0	0	0	3.4
MUs	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	4
% MUs	0	0.4	0	0	0.4	0	0	0	0	0	0	0.1	0	0	0.1	0	0	0	0	0	0.2

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Main St & Sherman St
Downers Grove, IL
2:00 PM - 4:00 PM
Sunny, Dry

File Name : Main St & Sherman St PM
Site Code : 00000000
Start Date : 9/8/2011
Page No : 1

Groups Printed- PCs - SUs - MUs

	Main St Southbound					Sherman St Westbound					Main St Northbound					Sherman St Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
02:00 PM	0	146	1	0	147	11	0	0	0	11	0	113	0	0	113	0	0	0	0	0	271
02:15 PM	0	154	3	0	157	12	0	0	0	12	1	135	0	0	136	0	0	0	0	0	305
02:30 PM	0	128	1	0	129	9	0	0	1	10	2	141	0	0	143	0	0	0	0	0	282
02:45 PM	0	160	4	0	164	11	0	0	1	12	3	113	0	0	116	0	0	0	0	0	292
Total	0	588	9	0	597	43	0	0	2	45	6	502	0	0	508	0	0	0	0	0	1150
03:00 PM	0	175	2	0	177	9	0	0	0	9	0	153	0	0	153	0	0	0	0	0	339
03:15 PM	0	158	6	0	164	13	0	0	3	16	1	143	0	0	144	0	0	0	0	0	324
03:30 PM	0	181	6	2	189	17	0	0	10	27	3	179	0	4	186	0	0	0	0	0	402
03:45 PM	0	172	7	1	180	27	0	1	6	34	2	156	0	1	159	0	0	0	0	0	373
Total	0	686	21	3	710	66	0	1	19	86	6	631	0	5	642	0	0	0	0	0	1438
Grand Total	0	1274	30	3	1307	109	0	1	21	131	12	1133	0	5	1150	0	0	0	0	0	2588
Apprch %	0	97.5	2.3	0.2		83.2	0	0.8	16		1	98.5	0	0.4		0	0	0	0		
Total %	0	49.2	1.2	0.1	50.5	4.2	0	0	0.8	5.1	0.5	43.8	0	0.2	44.4	0	0	0	0	0	
PCs	0	1223	30	2	1255	102	0	1	20	123	12	1101	0	1	1114	0	0	0	0	0	2492
% PCs	0	96	100	66.7	96	93.6	0	100	95.2	93.9	100	97.2	0	20	96.9	0	0	0	0	0	96.3
SUs	0	47	0	1	48	6	0	0	1	7	0	30	0	4	34	0	0	0	0	0	89
% SUs	0	3.7	0	33.3	3.7	5.5	0	0	4.8	5.3	0	2.6	0	80	3	0	0	0	0	0	3.4
MUs	0	4	0	0	4	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	7
% MUs	0	0.3	0	0	0.3	0.9	0	0	0	0.8	0	0.2	0	0	0.2	0	0	0	0	0	0.3

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Ogden Ave & Highland Ave
Downers Grove, IL
7:00 AM - 9:00 AM
Sunny, Dry

File Name : Ogden Ave & Highland Ave AM
Site Code : 00000000
Start Date : 9/8/2011
Page No : 1

Groups Printed- PCs - SUs - MUs

	Highland Ave Southbound					Ogden Ave Westbound					Highland Ave Northbound					Ogden Ave Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	2	0	0	0	2	1	199	0	0	200	17	0	3	0	20	21	236	0	0	257	479
07:15 AM	0	0	0	0	0	3	216	0	2	221	14	0	0	5	19	9	292	0	0	301	541
07:30 AM	0	0	0	4	4	5	296	1	1	303	30	0	0	0	30	16	325	0	0	341	678
07:45 AM	2	0	0	0	2	5	279	0	1	285	46	0	1	1	48	8	358	2	0	368	703
Total	4	0	0	4	8	14	990	1	4	1009	107	0	4	6	117	54	1211	2	0	1267	2401
08:00 AM	0	0	1	0	1	4	248	0	0	252	37	0	0	8	45	1	337	2	0	340	638
08:15 AM	3	0	1	0	4	4	260	0	0	264	16	0	0	2	18	5	332	3	1	341	627
08:30 AM	2	0	0	1	3	4	299	1	0	304	10	0	0	1	11	7	309	5	0	321	639
08:45 AM	5	0	1	0	6	4	250	0	0	254	14	0	0	0	14	4	337	1	0	342	616
Total	10	0	3	1	14	16	1057	1	0	1074	77	0	0	11	88	17	1315	11	1	1344	2520
Grand Total	14	0	3	5	22	30	2047	2	4	2083	184	0	4	17	205	71	2526	13	1	2611	4921
Apprch %	63.6	0	13.6	22.7		1.4	98.3	0.1	0.2		89.8	0	2	8.3		2.7	96.7	0.5	0		
Total %	0.3	0	0.1	0.1	0.4	0.6	41.6	0	0.1	42.3	3.7	0	0.1	0.3	4.2	1.4	51.3	0.3	0	53.1	
PCs	14	0	3	4	21	30	1955	2	1	1988	181	0	3	16	200	70	2394	12	1	2477	4686
% PCs	100	0	100	80	95.5	100	95.5	100	25	95.4	98.4	0	75	94.1	97.6	98.6	94.8	92.3	100	94.9	95.2
SUs	0	0	0	1	1	0	74	0	3	77	3	0	1	1	5	1	97	1	0	99	182
% SUs	0	0	0	20	4.5	0	3.6	0	75	3.7	1.6	0	25	5.9	2.4	1.4	3.8	7.7	0	3.8	3.7
MUs	0	0	0	0	0	0	18	0	0	18	0	0	0	0	0	0	35	0	0	35	53
% MUs	0	0	0	0	0	0	0.9	0	0	0.9	0	0	0	0	0	0	1.4	0	0	1.3	1.1

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Ogden Ave & Highland Ave
Downers Grove, IL
2:00 PM - 4:00 PM
Sunny, Dry

File Name : Ogden Ave & Highland Ave PM
Site Code : 00000000
Start Date : 9/8/2011
Page No : 1

Groups Printed- PCs - SUs - MUs

	Highland Ave Southbound					Ogden Ave Westbound					Highland Ave Northbound					Ogden Ave Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
02:00 PM	3	0	3	0	6	10	268	1	0	279	6	0	0	1	7	4	288	1	0	293	585
02:15 PM	5	0	1	0	6	5	278	2	0	285	7	0	0	0	7	8	281	0	0	289	587
02:30 PM	3	0	0	0	3	6	328	1	1	336	10	0	1	3	14	8	275	0	2	285	638
02:45 PM	5	0	1	0	6	10	308	1	0	319	7	0	1	1	9	5	297	0	0	302	636
Total	16	0	5	0	21	31	1182	5	1	1219	30	0	2	5	37	25	1141	1	2	1169	2446
03:00 PM	8	0	0	2	10	6	354	1	0	361	3	0	0	2	5	3	285	0	2	290	666
03:15 PM	12	0	1	1	14	8	336	0	0	344	11	0	1	0	12	15	299	0	0	314	684
03:30 PM	6	0	0	8	14	10	355	1	0	366	25	0	1	0	26	3	315	0	0	318	724
03:45 PM	7	0	0	2	9	10	347	0	0	357	11	0	0	4	15	3	306	0	0	309	690
Total	33	0	1	13	47	34	1392	2	0	1428	50	0	2	6	58	24	1205	0	2	1231	2764
Grand Total	49	0	6	13	68	65	2574	7	1	2647	80	0	4	11	95	49	2346	1	4	2400	5210
Apprch %	72.1	0	8.8	19.1		2.5	97.2	0.3	0		84.2	0	4.2	11.6		2	97.8	0	0.2		
Total %	0.9	0	0.1	0.2	1.3	1.2	49.4	0.1	0	50.8	1.5	0	0.1	0.2	1.8	0.9	45	0	0.1	46.1	
PCs	49	0	6	12	67	65	2489	6	0	2560	79	0	4	11	94	45	2269	1	4	2319	5040
% PCs	100	0	100	92.3	98.5	100	96.7	85.7	0	96.7	98.8	0	100	100	98.9	91.8	96.7	100	100	96.6	96.7
SUs	0	0	0	1	1	0	74	1	1	76	1	0	0	0	1	4	66	0	0	70	148
% SUs	0	0	0	7.7	1.5	0	2.9	14.3	100	2.9	1.2	0	0	0	1.1	8.2	2.8	0	0	2.9	2.8
MUs	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	11	0	0	11	22
% MUs	0	0	0	0	0	0	0.4	0	0	0.4	0	0	0	0	0	0	0.5	0	0	0.5	0.4

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Ogden Ave & Main St
Downers Grove, IL
7:00 AM - 9:00 PM
Sunny, Dry

File Name : Ogden Ave & Main St AM
Site Code : 00000000
Start Date : 9/8/2011
Page No : 1

Groups Printed- PCs - SUs - MUs

	Main St Southbound					Ogden Ave Westbound					Main St Northbound					Ogden Ave Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	39	56	30	0	125	22	184	14	0	220	13	134	38	0	185	15	228	94	0	337	867
07:15 AM	39	65	24	0	128	21	202	16	3	242	14	135	39	0	188	21	266	137	2	426	984
07:30 AM	81	75	31	1	188	30	257	27	5	319	27	142	59	0	228	20	291	125	1	437	1172
07:45 AM	63	81	35	1	180	35	236	26	7	304	5	193	58	0	256	17	330	151	0	498	1238
Total	222	277	120	2	621	108	879	83	15	1085	59	604	194	0	857	73	1115	507	3	1698	4261
08:00 AM	49	58	28	0	135	34	209	19	1	263	13	188	42	0	243	10	292	125	0	427	1068
08:15 AM	64	55	32	0	151	29	185	28	0	242	9	179	49	0	237	9	308	135	0	452	1082
08:30 AM	56	75	32	0	163	40	244	30	0	314	19	152	31	0	202	30	264	131	0	425	1104
08:45 AM	52	59	36	0	147	37	221	26	0	284	21	153	49	0	223	22	278	127	0	427	1081
Total	221	247	128	0	596	140	859	103	1	1103	62	672	171	0	905	71	1142	518	0	1731	4335
Grand Total	443	524	248	2	1217	248	1738	186	16	2188	121	1276	365	0	1762	144	2257	1025	3	3429	8596
Apprch %	36.4	43.1	20.4	0.2		11.3	79.4	8.5	0.7		6.9	72.4	20.7	0		4.2	65.8	29.9	0.1		
Total %	5.2	6.1	2.9	0	14.2	2.9	20.2	2.2	0.2	25.5	1.4	14.8	4.2	0	20.5	1.7	26.3	11.9	0	39.9	
PCs	424	504	235	1	1164	240	1663	170	12	2085	113	1257	349	0	1719	131	2152	1012	3	3298	8266
% PCs	95.7	96.2	94.8	50	95.6	96.8	95.7	91.4	75	95.3	93.4	98.5	95.6	0	97.6	91	95.3	98.7	100	96.2	96.2
SUs	12	19	10	1	42	7	58	15	4	84	8	19	14	0	41	12	71	8	0	91	258
% SUs	2.7	3.6	4	50	3.5	2.8	3.3	8.1	25	3.8	6.6	1.5	3.8	0	2.3	8.3	3.1	0.8	0	2.7	3
MUs	7	1	3	0	11	1	17	1	0	19	0	0	2	0	2	1	34	5	0	40	72
% MUs	1.6	0.2	1.2	0	0.9	0.4	1	0.5	0	0.9	0	0	0.5	0	0.1	0.7	1.5	0.5	0	1.2	0.8

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Ogden Ave & Main St
Downers Grove, IL
2:00 PM - 4:00 PM
Sunny, Dry

File Name : Ogden Ave & Main St PM
Site Code : 00000000
Start Date : 9/8/2011
Page No : 1

Groups Printed- PCs - SUs - MUs

	Main St Southbound					Ogden Ave Westbound					Main St Northbound					Ogden Ave Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
02:00 PM	104	116	46	0	266	37	207	33	2	279	18	79	39	0	136	24	236	70	0	330	1011
02:15 PM	106	91	51	0	248	21	223	31	0	275	28	85	42	0	155	24	217	61	0	302	980
02:30 PM	112	90	60	0	262	37	263	26	0	326	17	75	41	0	133	24	206	79	0	309	1030
02:45 PM	110	121	44	0	275	23	228	31	1	283	22	92	47	0	161	22	238	70	0	330	1049
Total	432	418	201	0	1051	118	921	121	3	1163	85	331	169	0	585	94	897	280	0	1271	4070
03:00 PM	133	99	44	1	277	45	288	36	0	369	33	80	27	0	140	24	216	60	0	300	1086
03:15 PM	109	107	53	1	270	26	259	31	0	316	23	103	54	0	180	39	238	64	1	342	1108
03:30 PM	124	116	33	2	275	39	296	35	7	377	27	94	46	1	168	35	281	79	2	397	1217
03:45 PM	136	125	47	1	309	54	270	36	2	362	27	118	51	1	197	18	224	58	0	300	1168
Total	502	447	177	5	1131	164	1113	138	9	1424	110	395	178	2	685	116	959	261	3	1339	4579
Grand Total	934	865	378	5	2182	282	2034	259	12	2587	195	726	347	2	1270	210	1856	541	3	2610	8649
Apprch %	42.8	39.6	17.3	0.2		10.9	78.6	10	0.5		15.4	57.2	27.3	0.2		8	71.1	20.7	0.1		
Total %	10.8	10	4.4	0.1	25.2	3.3	23.5	3	0.1	29.9	2.3	8.4	4	0	14.7	2.4	21.5	6.3	0	30.2	
PCs	898	841	368	5	2112	278	1953	245	12	2488	191	709	336	2	1238	194	1798	527	3	2522	8360
% PCs	96.1	97.2	97.4	100	96.8	98.6	96	94.6	100	96.2	97.9	97.7	96.8	100	97.5	92.4	96.9	97.4	100	96.6	96.7
SUs	26	23	10	0	59	4	71	13	0	88	3	14	11	0	28	13	45	10	0	68	243
% SUs	2.8	2.7	2.6	0	2.7	1.4	3.5	5	0	3.4	1.5	1.9	3.2	0	2.2	6.2	2.4	1.8	0	2.6	2.8
MUs	10	1	0	0	11	0	10	1	0	11	1	3	0	0	4	3	13	4	0	20	46
% MUs	1.1	0.1	0	0	0.5	0	0.5	0.4	0	0.4	0.5	0.4	0	0	0.3	1.4	0.7	0.7	0	0.8	0.5

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Ogden Ave & Prince St
Downers Grove, IL
7:00 AM - 9:00 AM
Sunny, Dry

File Name : Ogden Ave & Prince St AM
Site Code : 00000000
Start Date : 9/7/2011
Page No : 1

Groups Printed- PCs - Sus - Mus

	Prince St Southbound					Ogden Ave Westbound					Prince St Northbound					Ogden Ave Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	201	8	0	209	8	0	0	0	8	2	306	0	0	308	525
07:15 AM	0	0	0	0	0	0	272	4	1	277	11	0	2	0	13	1	351	0	0	352	642
07:30 AM	0	0	0	0	0	0	290	15	12	317	14	0	4	2	20	6	362	0	9	377	714
07:45 AM	0	0	0	1	1	0	255	7	0	262	9	0	1	0	10	8	441	0	4	453	726
Total	0	0	0	1	1	0	1018	34	13	1065	42	0	7	2	51	17	1460	0	13	1490	2607
08:00 AM	0	0	0	0	0	0	297	0	0	297	2	0	0	0	2	1	425	0	0	426	725
08:15 AM	0	0	0	0	0	0	285	2	0	287	3	0	0	0	3	2	399	0	0	401	691
08:30 AM	0	0	0	0	0	0	314	2	0	316	4	0	1	0	5	1	407	0	0	408	729
08:45 AM	0	0	0	0	0	0	279	10	0	289	4	0	4	0	8	1	408	0	0	409	706
Total	0	0	0	0	0	0	1175	14	0	1189	13	0	5	0	18	5	1639	0	0	1644	2851
Grand Total	0	0	0	1	1	0	2193	48	13	2254	55	0	12	2	69	22	3099	0	13	3134	5458
Apprch %	0	0	0	100		0	97.3	2.1	0.6		79.7	0	17.4	2.9		0.7	98.9	0	0.4		
Total %	0	0	0	0	0	0	40.2	0.9	0.2	41.3	1	0	0.2	0	1.3	0.4	56.8	0	0.2	57.4	
PCs	0	0	0	1	1	0	2090	48	13	2151	45	0	10	2	57	19	2988	0	13	3020	5229
% PCs	0	0	0	100	100	0	95.3	100	100	95.4	81.8	0	83.3	100	82.6	86.4	96.4	0	100	96.4	95.8
Sus	0	0	0	0	0	0	78	0	0	78	9	0	2	0	11	2	81	0	0	83	172
% Sus	0	0	0	0	0	0	3.6	0	0	3.5	16.4	0	16.7	0	15.9	9.1	2.6	0	0	2.6	3.2
Mus	0	0	0	0	0	0	25	0	0	25	1	0	0	0	1	1	30	0	0	31	57
% Mus	0	0	0	0	0	0	1.1	0	0	1.1	1.8	0	0	0	1.4	4.5	1	0	0	1	1

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Ogden Ave & Prince St
Downers Grove, IL
2:00 PM - 4:00 PM
Sunny, Dry

File Name : Ogden Ave & Prince St PM
Site Code : 00000000
Start Date : 9/7/2011
Page No : 1

Groups Printed- PCs - SUs - MUs

	Prince St Southbound					Ogden Ave Westbound					Prince St Northbound					Ogden Ave Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
02:00 PM	0	0	0	1	1	0	301	5	1	307	3	0	0	0	3	3	245	0	1	249	560
02:15 PM	0	0	0	0	0	0	324	4	0	328	7	0	2	1	10	3	325	3	0	331	669
02:30 PM	0	0	0	1	1	0	314	3	3	320	4	0	3	1	8	2	302	0	0	304	633
02:45 PM	0	0	0	0	0	0	319	5	0	324	2	0	3	0	5	8	328	0	0	336	665
Total	0	0	0	2	2	0	1258	17	4	1279	16	0	8	2	26	16	1200	3	1	1220	2527
03:00 PM	0	0	0	0	0	0	325	3	0	328	6	0	0	0	6	2	279	0	0	281	615
03:15 PM	0	0	0	1	1	0	363	5	11	379	5	0	0	0	5	4	269	0	0	273	658
03:30 PM	0	0	0	1	1	0	321	4	15	340	24	0	2	2	28	5	267	0	0	272	641
03:45 PM	0	0	0	0	0	0	400	2	0	402	11	0	3	3	17	5	285	0	0	290	709
Total	0	0	0	2	2	0	1409	14	26	1449	46	0	5	5	56	16	1100	0	0	1116	2623
Grand Total	0	0	0	4	4	0	2667	31	30	2728	62	0	13	7	82	32	2300	3	1	2336	5150
Apprch %	0	0	0	100		0	97.8	1.1	1.1		75.6	0	15.9	8.5		1.4	98.5	0.1	0		
Total %	0	0	0	0.1	0.1	0	51.8	0.6	0.6	53	1.2	0	0.3	0.1	1.6	0.6	44.7	0.1	0	45.4	
PCs	0	0	0	3	3	0	2554	28	30	2612	57	0	12	7	76	31	2210	3	1	2245	4936
% PCs	0	0	0	75	75	0	95.8	90.3	100	95.7	91.9	0	92.3	100	92.7	96.9	96.1	100	100	96.1	95.8
SUs	0	0	0	1	1	0	93	3	0	96	5	0	1	0	6	1	71	0	0	72	175
% SUs	0	0	0	25	25	0	3.5	9.7	0	3.5	8.1	0	7.7	0	7.3	3.1	3.1	0	0	3.1	3.4
MUs	0	0	0	0	0	0	20	0	0	20	0	0	0	0	0	0	19	0	0	19	39
% MUs	0	0	0	0	0	0	0.7	0	0	0.7	0	0	0	.0	0	0	0.8	0	0	0.8	0.8

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Ogden Ave & Saratoga Ave
Downers Grove, IL
7:00 AM - 9:00 AM
Sunny, Dry

File Name : Ogden Ave & Saratoga Ave AM
Site Code : 00000000
Start Date : 9/7/2011
Page No : 1

Groups Printed- PCs - Sus - Mus

	Saratoga Ave Southbound					Ogden Ave Westbound					Saratoga Ave Northbound					Ogden Ave Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	14	1	4	0	19	6	207	3	0	216	8	10	11	0	29	8	296	17	1	322	586
07:15 AM	9	7	8	0	24	4	267	5	3	279	13	15	27	0	55	17	334	18	3	372	730
07:30 AM	9	8	11	1	29	4	322	11	8	345	16	9	30	0	55	35	387	28	8	458	887
07:45 AM	14	9	10	0	33	11	286	15	6	318	18	20	45	0	83	13	454	33	6	506	940
Total	46	25	33	1	105	25	1082	34	17	1158	55	54	113	0	222	73	1471	96	18	1658	3143
08:00 AM	9	2	9	0	20	7	283	4	1	295	10	13	13	1	37	2	395	35	2	434	786
08:15 AM	7	0	10	1	18	13	276	7	0	296	7	6	18	0	31	11	386	41	1	439	784
08:30 AM	17	8	15	0	40	12	300	9	2	323	8	14	11	1	34	6	393	35	1	435	832
08:45 AM	20	4	12	0	36	7	285	8	1	301	11	13	10	0	34	6	393	26	3	428	799
Total	53	14	46	1	114	39	1144	28	4	1215	36	46	52	2	136	25	1567	137	7	1736	3201
Grand Total	99	39	79	2	219	64	2226	62	21	2373	91	100	165	2	358	98	3038	233	25	3394	6344
Apprch %	45.2	17.8	36.1	0.9		2.7	93.8	2.6	0.9		25.4	27.9	46.1	0.6		2.9	89.5	6.9	0.7		
Total %	1.6	0.6	1.2	0	3.5	1	35.1	1	0.3	37.4	1.4	1.6	2.6	0	5.6	1.5	47.9	3.7	0.4	53.5	
PCs	96	37	74	2	209	61	2122	59	18	2260	88	98	157	2	345	96	2927	230	16	3269	6083
% PCs	97	94.9	93.7	100	95.4	95.3	95.3	95.2	85.7	95.2	96.7	98	95.2	100	96.4	98	96.3	98.7	64	96.3	95.9
Sus	3	2	4	0	9	2	82	3	3	90	3	2	8	0	13	1	84	2	9	96	208
% Sus	3	5.1	5.1	0	4.1	3.1	3.7	4.8	14.3	3.8	3.3	2	4.8	0	3.6	1	2.8	0.9	36	2.8	3.3
Mus	0	0	1	0	1	1	22	0	0	23	0	0	0	0	0	1	27	1	0	29	53
% Mus	0	0	1.3	0	0.5	1.6	1	0	0	1	0	0	0	0	0	1	0.9	0.4	0	0.9	0.8

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Ogden Ave & Saratoga Ave
Downers Grove, IL
2:00 PM - 4:00 PM
Sunny, Dry

File Name : Ogden Ave & Saratoga Ave PM
Site Code : 00000000
Start Date : 9/7/2011
Page No : 1

Groups Printed- PCs - Sus - Mus

	SARATOGA Southbound					OGDEN Westbound					SARATOGA Northbound					OGDEN Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
02:00 PM	24	11	15	0	50	19	304	0	1	324	3	6	8	1	18	9	235	22	0	266	658
02:15 PM	25	12	28	1	66	13	319	7	1	340	6	10	9	0	25	8	310	24	2	344	775
02:30 PM	21	7	12	0	40	12	312	9	0	333	13	11	15	0	39	7	288	31	10	336	748
02:45 PM	14	8	32	0	54	14	311	7	0	332	5	16	9	0	30	13	310	33	49	405	821
Total	84	38	87	1	210	58	1246	23	2	1329	27	43	41	1	112	37	1143	110	61	1351	3002
03:00 PM	15	16	20	1	52	14	301	9	0	324	9	17	10	0	36	9	247	34	1	291	703
03:15 PM	20	7	11	0	38	17	346	20	0	383	19	11	14	1	45	25	269	23	5	322	788
03:30 PM	27	9	11	1	48	17	349	12	7	385	26	19	39	3	87	11	283	21	7	322	842
03:45 PM	21	16	28	0	65	21	415	6	7	449	10	15	10	0	35	6	263	34	3	306	855
Total	83	48	70	2	203	69	1411	47	14	1541	64	62	73	4	203	51	1062	112	16	1241	3188
Grand Total	167	86	157	3	413	127	2657	70	16	2870	91	105	114	5	315	88	2205	222	77	2592	6190
Apprch %	40.4	20.8	38	0.7		4.4	92.6	2.4	0.6		28.9	33.3	36.2	1.6		3.4	85.1	8.6	3		
Total %	2.7	1.4	2.5	0	6.7	2.1	42.9	1.1	0.3	46.4	1.5	1.7	1.8	0.1	5.1	1.4	35.6	3.6	1.2	41.9	
PCs	165	85	156	3	409	125	2535	68	14	2742	89	104	103	4	300	83	2115	222	73	2493	5944
% PCs	98.8	98.8	99.4	100	99	98.4	95.4	97.1	87.5	95.5	97.8	99	90.4	80	95.2	94.3	95.9	100	94.8	96.2	96
Sus	1	1	1	0	3	2	103	2	2	109	2	1	11	1	15	5	71	0	4	80	207
% Sus	0.6	1.2	0.6	0	0.7	1.6	3.9	2.9	12.5	3.8	2.2	1	9.6	20	4.8	5.7	3.2	0	5.2	3.1	3.3
Mus	1	0	0	0	1	0	19	0	0	19	0	0	0	0	0	0	19	0	0	19	39
% Mus	0.6	0	0	0	0.2	0	0.7	0	0	0.7	0	0	0	0	0	0	0.9	0	0	0.7	0.6

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Prince St & Sherman Rd
Downers Grove, IL
7:00 AM - 9:00 AM
Sunny, Dry

File Name : Prince St & Sherman Rd AM
Site Code : 00000000
Start Date : 9/7/2011
Page No : 1

Groups Printed- PCs - SUs - MUs

	Prince St Southbound					Sherman Rd Westbound					Prince St Northbound					Sherman Rd Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	1	0	6	0	7	0	0	0	0	0	0	0	0	0	0	7
07:15 AM	0	0	0	0	0	1	0	8	2	11	0	0	0	0	0	0	0	0	0	0	11
07:30 AM	0	0	0	0	0	6	0	8	33	47	0	0	0	1	1	0	0	0	0	0	48
07:45 AM	0	0	0	0	0	0	0	7	10	17	0	0	0	2	2	0	0	0	0	0	19
Total	0	0	0	0	0	8	0	29	45	82	0	0	0	3	3	0	0	0	0	0	85
08:00 AM	0	0	0	0	0	1	0	3	1	5	0	0	0	0	0	0	0	0	0	0	5
08:15 AM	0	0	0	0	0	1	0	5	1	7	0	0	0	0	0	0	0	0	0	0	7
08:30 AM	0	0	0	0	0	3	0	5	0	8	0	0	0	2	2	0	0	0	0	0	10
08:45 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	6	0	13	2	21	0	0	0	2	2	0	0	0	0	0	23
Grand Total	0	0	0	0	0	14	0	42	47	103	0	0	0	5	5	0	0	0	0	0	108
Apprch %	0	0	0	0		13.6	0	40.8	45.6		0	0	0	100		0	0	0	0		
Total %	0	0	0	0	0	13	0	38.9	43.5	95.4	0	0	0	4.6	4.6	0	0	0	0	0	
PCs	0	0	0	0	0	14	0	41	47	102	0	0	0	3	3	0	0	0	0	0	105
% PCs	0	0	0	0	0	100	0	97.6	100	99	0	0	0	60	60	0	0	0	0	0	97.2
SUs	0	0	0	0	0	0	0	1	0	1	0	0	0	2	2	0	0	0	0	0	3
% SUs	0	0	0	0	0	0	0	2.4	0	1	0	0	0	40	40	0	0	0	0	0	2.8
MUs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% MUs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Prince St & Sherman Rd
Downers Grove, IL
2:00 PM - 4:00 PM
Sunny, Dry

File Name : Prince St & Sherman Rd PM
Site Code : 00000000
Start Date : 9/7/2011
Page No : 1

Groups Printed- PCs - SUs - MUs

	Prince St Southbound					Sherman Rd Westbound					Prince St Northbound					Sherman Rd Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
02:00 PM	0	0	0	0	0	0	0	2	0	2	0	0	0	2	2	0	0	0	0	0	4
02:15 PM	0	0	0	0	0	2	0	4	0	6	0	0	0	1	1	0	0	0	0	0	7
02:30 PM	0	0	0	0	0	3	0	3	8	14	0	0	0	0	0	0	0	0	0	0	14
02:45 PM	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	3
Total	0	0	0	0	0	5	0	12	8	25	0	0	0	3	3	0	0	0	0	0	28
03:00 PM	0	0	0	0	0	0	0	5	1	6	0	0	0	1	1	0	0	0	0	0	7
03:15 PM	0	0	0	0	0	1	0	5	31	37	0	0	0	7	7	0	0	0	0	0	44
03:30 PM	0	0	0	0	0	8	0	6	41	55	0	0	0	8	8	0	0	0	0	0	63
03:45 PM	0	0	0	2	2	4	0	5	5	14	0	0	0	1	1	0	0	0	0	0	17
Total	0	0	0	2	2	13	0	21	78	112	0	0	0	17	17	0	0	0	0	0	131
Grand Total	0	0	0	2	2	18	0	33	86	137	0	0	0	20	20	0	0	0	0	0	159
Apprch %	0	0	0	100		13.1	0	24.1	62.8		0	0	0	100		0	0	0	0		
Total %	0	0	0	1.3	1.3	11.3	0	20.8	54.1	86.2	0	0	0	12.6	12.6	0	0	0	0	0	
PCs	0	0	0	2	2	18	0	30	86	134	0	0	0	19	19	0	0	0	0	0	155
% PCs	0	0	0	100	100	100	0	90.9	100	97.8	0	0	0	95	95	0	0	0	0	0	97.5
SUs	0	0	0	0	0	0	0	3	0	3	0	0	0	1	1	0	0	0	0	0	4
% SUs	0	0	0	0	0	0	0	9.1	0	2.2	0	0	0	5	5	0	0	0	0	0	2.5
MUs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% MUs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Prince St & Sherman St
Downers Grove, IL
7:00 AM - 9:00 AM
Sunny, Dry

File Name : Prince St & Sherman St AM
Site Code : 00000000
Start Date : 9/7/2011
Page No : 1

Groups Printed- PCs - SUs - MUs

	Prince St Southbound					Sherman St Westbound					Prince St Northbound					Sherman St Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	1	11	0	0	12	0	0	0	4	4	0	9	1	0	10	0	0	0	0	0	26
07:15 AM	2	14	0	0	16	0	0	0	5	5	0	14	7	1	22	0	0	1	0	1	44
07:30 AM	9	17	0	2	28	0	0	0	30	30	0	12	13	0	25	1	0	2	6	9	92
07:45 AM	3	22	0	1	26	0	0	0	12	12	0	11	12	2	25	0	0	0	5	5	68
Total	15	64	0	3	82	0	0	0	51	51	0	46	33	3	82	1	0	3	11	15	230
08:00 AM	3	1	0	0	4	0	0	0	0	0	0	4	1	0	5	0	0	1	0	1	10
08:15 AM	2	1	0	0	3	0	0	0	0	0	0	7	1	0	8	0	0	0	0	0	11
08:30 AM	3	6	0	0	9	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	14
08:45 AM	0	5	0	0	5	0	0	0	0	0	0	3	0	1	4	0	0	1	1	2	11
Total	8	13	0	0	21	0	0	0	0	0	0	18	3	1	22	0	0	2	1	3	46
Grand Total	23	77	0	3	103	0	0	0	51	51	0	64	36	4	104	1	0	5	12	18	276
Apprch %	22.3	74.8	0	2.9		0	0	0	100		0	61.5	34.6	3.8		5.6	0	27.8	66.7		
Total %	8.3	27.9	0	1.1	37.3	0	0	0	18.5	18.5	0	23.2	13	1.4	37.7	0.4	0	1.8	4.3	6.5	
PCs	23	72	0	3	98	0	0	0	51	51	0	53	26	3	82	1	0	5	12	18	249
% PCs	100	93.5	0	100	95.1	0	0	0	100	100	0	82.8	72.2	75	78.8	100	0	100	100	100	90.2
SUs	0	4	0	0	4	0	0	0	0	0	0	10	10	1	21	0	0	0	0	0	25
% SUs	0	5.2	0	0	3.9	0	0	0	0	0	0	15.6	27.8	25	20.2	0	0	0	0	0	9.1
MUs	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
% MUs	0	1.3	0	0	1	0	0	0	0	0	0	1.6	0	0	1	0	0	0	0	0	0.7

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Prince St & Sherman St
Downers Grove, IL
2:00 PM - 4:00 PM
Sunny, Dry

File Name : Prince St & Sherman St PM
Site Code : 00000000
Start Date : 9/7/2011
Page No : 1

Groups Printed- PCs - SUs - MUs

	Prince St Southbound					Sherman St Westbound					Prince St Northbound					Sherman St Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
02:00 PM	1	10	0	0	11	0	0	0	0	0	0	3	0	0	3	2	0	1	0	3	17
02:15 PM	1	8	0	0	9	0	0	0	0	0	0	3	2	0	5	0	0	1	0	1	15
02:30 PM	6	8	0	0	14	0	0	0	7	7	0	4	1	2	7	0	0	1	3	4	32
02:45 PM	1	11	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
Total	9	37	0	0	46	0	0	0	7	7	0	10	3	2	15	2	0	3	3	8	76
03:00 PM	3	5	0	0	8	1	0	0	1	2	0	3	2	0	5	1	0	1	1	3	18
03:15 PM	11	2	0	7	20	0	0	0	59	59	0	0	0	0	0	0	0	2	2	4	83
03:30 PM	11	10	0	1	22	1	0	0	23	24	0	9	7	0	16	0	0	4	12	16	78
03:45 PM	4	10	0	0	14	0	0	0	5	5	0	6	1	0	7	1	0	1	1	3	29
Total	29	27	0	8	64	2	0	0	88	90	0	18	10	0	28	2	0	8	16	26	208
Grand Total	38	64	0	8	110	2	0	0	95	97	0	28	13	2	43	4	0	11	19	34	284
Apprch %	34.5	58.2	0	7.3		2.1	0	0	97.9		0	65.1	30.2	4.7		11.8	0	32.4	55.9		
Total %	13.4	22.5	0	2.8	38.7	0.7	0	0	33.5	34.2	0	9.9	4.6	0.7	15.1	1.4	0	3.9	6.7	12	
PCs	36	57	0	2	95	0	0	0	95	95	0	22	5	2	29	4	0	11	18	33	252
% PCs	94.7	89.1	0	25	86.4	0	0	0	100	97.9	0	78.6	38.5	100	67.4	100	0	100	94.7	97.1	88.7
SUs	2	7	0	6	15	1	0	0	0	1	0	6	8	0	14	0	0	0	1	1	31
% SUs	5.3	10.9	0	75	13.6	50	0	0	0	1	0	21.4	61.5	0	32.6	0	0	0	5.3	2.9	10.9
MUs	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% MUs	0	0	0	0	0	50	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.4

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Saratoga Ave & Sherman St
Downers Grove, IL
7:00 AM - 9:00 AM
Sunny, Dry

File Name : Saratoga Ave & Sherman St AM
Site Code : 00000000
Start Date : 9/7/2011
Page No : 1

Groups Printed- PCs - SUs - MUS

	Saratoga Ave Southbound					Sherman St Westbound					Saratoga Ave Northbound					Sherman St Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	13	0	0	13	0	0	2	3	5	0	26	0	1	27	0	0	0	3	3	48
07:15 AM	0	27	0	0	27	7	0	2	2	11	1	43	1	0	45	0	0	0	2	2	85
07:30 AM	0	54	2	0	56	13	0	8	5	26	2	54	0	9	65	0	0	0	13	13	160
07:45 AM	0	29	0	0	29	7	0	9	7	23	1	74	0	2	77	0	0	0	6	6	135
Total	0	123	2	0	125	27	0	21	17	65	4	197	1	12	214	0	0	0	24	24	428
08:00 AM	0	8	0	1	9	2	0	1	0	3	1	39	0	0	40	0	0	0	2	2	54
08:15 AM	0	22	0	1	23	2	0	0	0	2	0	22	0	0	22	0	0	0	0	0	47
08:30 AM	0	23	0	2	25	2	0	0	2	4	0	30	0	1	31	0	0	0	0	0	60
08:45 AM	0	17	2	0	19	0	0	0	1	1	1	27	0	0	28	0	0	0	3	3	51
Total	0	70	2	4	76	6	0	1	3	10	2	118	0	1	121	0	0	0	5	5	212
Grand Total	0	193	4	4	201	33	0	22	20	75	6	315	1	13	335	0	0	0	29	29	640
Apprch %	0	96	2	2		44	0	29.3	26.7		1.8	94	0.3	3.9		0	0	0	100		
Total %	0	30.2	0.6	0.6	31.4	5.2	0	3.4	3.1	11.7	0.9	49.2	0.2	2	52.3	0	0	0	4.5	4.5	
PCs	0	187	4	3	194	27	0	18	14	59	6	309	0	12	327	0	0	0	26	26	606
% PCs	0	96.9	100	75	96.5	81.8	0	81.8	70	78.7	100	98.1	0	92.3	97.6	0	0	0	89.7	89.7	94.7
SUs	0	6	0	1	7	6	0	4	6	16	0	6	1	1	8	0	0	0	3	3	34
% SUs	0	3.1	0	25	3.5	18.2	0	18.2	30	21.3	0	1.9	100	7.7	2.4	0	0	0	10.3	10.3	5.3
MUS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% MUS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Saratoga Ave & Sherman St
Downers Grove, IL
2:00 PM - 4:00 PM
Sunny, Dry

File Name : Saratoga Ave & Sherman St PM
Site Code : 00000000
Start Date : 9/7/2011
Page No : 1

Groups Printed- PCs - SUs - MUs

	SARATOGA Southbound					SHERMAN Westbound					SARATOGA Northbound					SHERMAN Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
02:00 PM	0	17	1	0	18	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	32
02:15 PM	0	21	0	0	21	3	0	0	0	3	2	23	0	0	25	0	0	0	0	0	49
02:30 PM	0	24	0	0	24	3	0	3	27	33	1	39	0	0	40	0	0	0	2	2	99
02:45 PM	0	29	0	1	30	1	0	0	29	30	0	27	0	4	31	0	0	0	4	4	95
Total	0	91	1	1	93	7	0	3	56	66	3	103	0	4	110	0	0	0	6	6	275
03:00 PM	0	38	0	0	38	3	0	3	0	6	0	27	0	0	27	0	0	0	0	0	71
03:15 PM	0	44	0	0	44	3	0	4	12	19	3	46	0	1	50	0	0	0	2	2	115
03:30 PM	0	29	2	0	31	5	0	12	1	18	5	72	0	0	77	0	0	0	2	2	128
03:45 PM	0	28	2	0	30	3	0	2	2	7	0	31	0	2	33	0	0	0	3	3	73
Total	0	139	4	0	143	14	0	21	15	50	8	176	0	3	187	0	0	0	7	7	387
Grand Total	0	230	5	1	236	21	0	24	71	116	11	279	0	7	297	0	0	0	13	13	662
Apprch %	0	97.5	2.1	0.4		18.1	0	20.7	61.2		3.7	93.9	0	2.4		0	0	0	100		
Total %	0	34.7	0.8	0.2	35.6	3.2	0	3.6	10.7	17.5	1.7	42.1	0	1.1	44.9	0	0	0	2	2	
PCs	0	222	5	1	228	16	0	18	68	102	11	272	0	7	290	0	0	0	9	9	629
% PCs	0	96.5	100	100	96.6	76.2	0	75	95.8	87.9	100	97.5	0	100	97.6	0	0	0	69.2	69.2	95
SUs	0	8	0	0	8	5	0	6	3	14	0	7	0	0	7	0	0	0	4	4	33
% SUs	0	3.5	0	0	3.4	23.8	0	25	4.2	12.1	0	2.5	0	0	2.4	0	0	0	30.8	30.8	5
MUs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% MUs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix B

Existing Capacity Analysis Worksheets

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HCM Signalized Intersection Capacity Analysis
26: Main St. & Ogden Ave.

9/21/2011

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	536	1221	56	100	887	128	208	702	54	126	269	257
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.0		3.0	6.0		3.0	6.0		3.0	6.0	3.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.98		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3516		1770	3465		1769	3490		1770	3539	1573
Flt Permitted	0.11	1.00		0.12	1.00		0.48	1.00		0.13	1.00	1.00
Satd. Flow (perm)	201	3516		219	3465		893	3490		240	3539	1573
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	583	1327	61	109	964	139	226	763	59	137	292	279
RTOR Reduction (vph)	0	3	0	0	9	0	0	4	0	0	0	37
Lane Group Flow (vph)	583	1385	0	109	1094	0	226	818	0	137	292	242
Confl. Peds. (#/hr)	2					2	1		13	13		1
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	72.0	59.9		43.1	34.0		45.2	33.3		40.8	31.1	66.1
Effective Green, g (s)	72.0	59.9		43.1	34.0		45.2	33.3		40.8	31.1	66.1
Actuated g/C Ratio	0.55	0.46		0.33	0.26		0.35	0.26		0.31	0.24	0.51
Clearance Time (s)	3.0	6.0		3.0	6.0		3.0	6.0		3.0	6.0	3.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	534	1620		181	906		391	894		189	847	800
v/s Ratio Prot	c0.29	0.39		0.04	c0.32		c0.05	c0.23		c0.05	0.08	0.08
v/s Ratio Perm	0.31			0.16			0.15			0.17		0.07
v/c Ratio	1.09	0.86		0.60	1.21		0.58	0.91		0.72	0.34	0.30
Uniform Delay, d1	39.2	31.2		32.3	48.0		32.0	47.0		35.5	41.0	18.6
Progression Factor	0.64	0.93		1.00	1.00		0.90	0.94		1.00	1.00	1.00
Incremental Delay, d2	58.0	2.8		5.5	103.8		1.9	14.6		12.9	1.1	0.2
Delay (s)	83.1	31.8		37.8	151.8		30.7	58.7		48.4	42.1	18.8
Level of Service	F	C		D	F		C	E		D	D	B
Approach Delay (s)		47.0			141.6			52.6			34.1	
Approach LOS		D			F			D			C	

Intersection Summary					
HCM Average Control Delay	69.5	HCM Level of Service		E	
HCM Volume to Capacity ratio	1.02				
Actuated Cycle Length (s)	130.0	Sum of lost time (s)		15.0	
Intersection Capacity Utilization	103.2%	ICU Level of Service		G	
Analysis Period (min)	15				

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	137	1711	61	37	1261	35	106	48	51	40	19	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.0		3.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.98		1.00	0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.96	1.00		0.97	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.92		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3518		1770	3522		1702	1677		1715	1618	
Flt Permitted	0.12	1.00		0.05	1.00		0.72	1.00		0.67	1.00	
Satd. Flow (perm)	223	3518		92	3522		1283	1677		1211	1618	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	149	1860	66	40	1371	38	115	52	55	43	21	42
RTOR Reduction (vph)	0	2	0	0	1	0	0	29	0	0	34	0
Lane Group Flow (vph)	149	1924	0	40	1408	0	115	78	0	43	29	0
Confl. Peds. (#/hr)	2		1	1		2	17		15	15		17
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	92.8	84.6		86.5	81.3		25.2	25.2		25.2	25.2	
Effective Green, g (s)	92.8	84.6		86.5	81.3		25.2	25.2		25.2	25.2	
Actuated g/C Ratio	0.71	0.65		0.67	0.63		0.19	0.19		0.19	0.19	
Clearance Time (s)	3.0	6.0		3.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	260	2289		128	2203		249	325		235	314	
v/s Ratio Prot	c0.04	c0.55		0.01	0.40			0.05			0.02	
v/s Ratio Perm	0.37			0.20			c0.09			0.04		
v/c Ratio	0.57	0.84		0.31	0.64		0.46	0.24		0.18	0.09	
Uniform Delay, d1	12.2	17.5		18.7	15.2		46.4	44.3		43.8	43.0	
Progression Factor	1.00	1.00		1.68	1.27		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.0	3.0		0.5	0.2		6.1	1.7		1.7	0.6	
Delay (s)	15.3	20.5		31.9	19.5		52.4	46.0		45.5	43.6	
Level of Service	B	C		C	B		D	D		D	D	
Approach Delay (s)		20.1			19.9			49.4			44.4	
Approach LOS		C			B			D			D	

Intersection Summary				
HCM Average Control Delay	22.4	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.72			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	9.0	
Intersection Capacity Utilization	79.2%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
31: Main St. & Grant St.

9/22/2011

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	47	56	979	57	26	375
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0			6.0
Lane Util. Factor	1.00		0.95			0.95
Frt	0.93		0.99			1.00
Flt Protected	0.98		1.00			1.00
Satd. Flow (prot)	1687		3510			3528
Flt Permitted	0.98		1.00			0.81
Satd. Flow (perm)	1687		3510			2858
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	51	61	1064	62	28	408
RTOR Reduction (vph)	56	0	6	0	0	0
Lane Group Flow (vph)	56	0	1120	0	0	436
Turn Type	NA		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	5.8		27.2			27.2
Effective Green, g (s)	5.8		27.2			27.2
Actuated g/C Ratio	0.09		0.42			0.42
Clearance Time (s)	6.0		6.0			6.0
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	151		1469			1196
v/s Ratio Prot	c0.03		c0.32			
v/s Ratio Perm						0.15
v/c Ratio	0.37		0.76			0.36
Uniform Delay, d1	27.9		16.1			13.0
Progression Factor	1.00		1.00			0.78
Incremental Delay, d2	1.6		3.8			0.8
Delay (s)	29.4		19.9			11.0
Level of Service	C		B			B
Approach Delay (s)	29.4		19.9			11.0
Approach LOS	C		B			B

Intersection Summary			
HCM Average Control Delay	18.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	32.0
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

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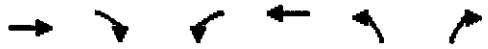
HCM Unsignalized Intersection Capacity Analysis
5: Prince St. & Ogden Ave.

9/21/2011



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1785	17	24	1328	5	28
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)	1940	18	26	1443	5	30
Pedestrians	13			12	2	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	0	
Right turn flare (veh)						
Median type	None			TWLTL		
Median storage veh)				2		
Upstream signal (ft)	320			673		
pX, platoon unblocked			0.55		0.68	0.55
vC, conflicting volume			1961		2738	993
vC1, stage 1 conf vol					1951	
vC2, stage 2 conf vol					787	
vCu, unblocked vol			1112		943	0
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 %			92		96	95
cM capacity (veh/h)			343		151	590

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	1293	665	26	722	722	36
Volume Left	0	0	26	0	0	5
Volume Right	0	18	0	0	0	30
cSH	1700	1700	343	1700	1700	410
Volume to Capacity	0.76	0.39	0.08	0.42	0.42	0.09
Queue Length 95th (ft)	0	0	6	0	0	7
Control Delay (s)	0.0	0.0	16.4	0.0	0.0	14.6
Lane LOS			C			B
Approach Delay (s)	0.0		0.3			14.6
Approach LOS						B

Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	63.2%	ICU Level of Service		B
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕↑			↕↑	
Volume (veh/h)	23	13	16	1	10	14	20	918	11	7	375	40
Sign Control		Stop			Stop			Free			Free	
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)	25	14	17	1	11	15	22	998	12	8	408	43
Pedestrians		7			8							
Lane Width (ft)		12.0			12.0							
Walking Speed (ft/s)		4.0			4.0							
Percent Blockage		1			1							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											658	
pX, platoon unblocked												
vC, conflicting volume	1015	1513	233	1299	1529	513	458			1018		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1015	1513	233	1299	1529	513	458			1018		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	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 %	85	88	98	99	90	97	98			99		
cM capacity (veh/h)	166	114	765	101	111	503	1093			673		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	57	27	521	511	211	247
Volume Left	25	1	22	0	8	0
Volume Right	17	15	0	12	0	43
cSH	190	196	1093	1700	673	1700
Volume to Capacity	0.30	0.14	0.02	0.30	0.01	0.15
Queue Length 95th (ft)	30	12	2	0	1	0
Control Delay (s)	31.8	26.3	0.6	0.0	0.5	0.0
Lane LOS	D	D	A		A	
Approach Delay (s)	31.8	26.3	0.3		0.2	
Approach LOS	D	D				

Intersection Summary				
Average Delay	1.9			
Intersection Capacity Utilization	56.3%	ICU Level of Service	B	
Analysis Period (min)	15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	9	61	32	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	10	66	35	11
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	126	40	46			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	126	40	46			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	99			
cM capacity (veh/h)	863	1031	1562			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	0	76	46
Volume Left	0	10	0
Volume Right	0	0	11
cSH	1700	1562	1700
Volume to Capacity	0.00	0.01	0.03
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	1.0	0.0
Lane LOS	A	A	
Approach Delay (s)	0.0	1.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	13.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	3	10	183	90	25	106
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	11	199	98	27	115
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						658
pX, platoon unblocked						
vC, conflicting volume	417	248			297	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	417	248			297	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	99			98	
cM capacity (veh/h)	579	791			1265	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	14	297	142
Volume Left	3	0	27
Volume Right	11	98	0
cSH	729	1700	1265
Volume to Capacity	0.02	0.17	0.02
Queue Length 95th (ft)	1	0	2
Control Delay (s)	10.0	0.0	1.7
Lane LOS	B		A
Approach Delay (s)	10.0	0.0	1.7
Approach LOS	B		

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	35.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	40	15	8	15	32	34	23	199	8	19	54	36
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)	43	16	9	16	35	37	25	216	9	21	59	39

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	68	88	250	118
Volume Left (vph)	43	16	25	21
Volume Right (vph)	9	37	9	39
Hadj (s)	0.08	-0.18	0.03	-0.13
Departure Headway (s)	5.0	4.7	4.5	4.4
Degree Utilization, x	0.09	0.11	0.31	0.15
Capacity (veh/h)	664	705	777	762
Control Delay (s)	8.5	8.3	9.5	8.2
Approach Delay (s)	8.5	8.3	9.5	8.2
Approach LOS	A	A	A	A

Intersection Summary			
Delay	8.8		
HCM Level of Service	A		
Intersection Capacity Utilization	33.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	29	11	48	41	4	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	32	12	52	45	4	30

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total (vph)	43	97	35
Volume Left (vph)	32	52	0
Volume Right (vph)	12	0	30
Hadj (s)	0.01	0.14	-0.49
Departure Headway (s)	4.2	4.2	3.6
Degree Utilization, x	0.05	0.11	0.03
Capacity (veh/h)	829	843	978
Control Delay (s)	7.4	7.7	6.7
Approach Delay (s)	7.4	7.7	6.7
Approach LOS	A	A	A

Intersection Summary			
Delay	7.4		
HCM Level of Service	A		
Intersection Capacity Utilization	30.1%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
18: Highland Ave. & Grant St.

9/21/2011

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	46	16	4	15	73	122	9	64	8	35	20	7
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)	50	17	4	16	79	133	10	70	9	38	22	8

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	72	228	88	67
Volume Left (vph)	50	16	10	38
Volume Right (vph)	4	133	9	8
Hadj (s)	0.14	-0.30	0.00	0.08
Departure Headway (s)	4.7	4.1	4.6	4.8
Degree Utilization, x	0.09	0.26	0.11	0.09
Capacity (veh/h)	735	843	722	700
Control Delay (s)	8.1	8.5	8.2	8.2
Approach Delay (s)	8.1	8.5	8.2	8.2
Approach LOS	A	A	A	A

Intersection Summary			
Delay	8.3		
HCM Level of Service	A		
Intersection Capacity Utilization	36.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	23	8	0	0	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	25	9	0	0	0	0
Pedestrians	45		3			
Lane Width (ft)	12.0		12.0			
Walking Speed (ft/s)	4.0		4.0			
Percent Blockage	4		0			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	48	45			45	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	48	45			45	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	99			100	
cM capacity (veh/h)	923	986			1504	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	34	0	0
Volume Left	25	0	0
Volume Right	9	0	0
cSH	939	1700	1700
Volume to Capacity	0.04	0.00	0.00
Queue Length 95th (ft)	3	0	0
Control Delay (s)	9.0	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.0	0.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	9.0		
Intersection Capacity Utilization	21.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	8	988	415	25
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	9	1074	451	27
Pedestrians	14					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				905	321	
pX, platoon unblocked	0.94	0.94	0.94			
vC, conflicting volume	1033	253	492			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	889	68	324			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	99			
cM capacity (veh/h)	264	919	1155			

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	9	537	537	301	178
Volume Left	9	0	0	0	0
Volume Right	0	0	0	0	27
cSH	1155	1700	1700	1700	1700
Volume to Capacity	0.01	0.32	0.32	0.18	0.10
Queue Length 95th (ft)	1	0	0	0	0
Control Delay (s)	8.1	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	0.1			0.0	
Approach LOS					

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	30.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	65	931	23	19	396
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	71	1012	25	21	430
Pedestrians	13					6
Lane Width (ft)	12.0					12.0
Walking Speed (ft/s)	4.0					4.0
Percent Blockage	1					1
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			645			581
pX, platoon unblocked	0.95	0.93			0.93	
vC, conflicting volume	1294	537			1050	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	984	353			904	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	88			97	
cM capacity (veh/h)	225	589			688	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	71	675	362	164	287
Volume Left	0	0	0	21	0
Volume Right	71	0	25	0	0
cSH	589	1700	1700	688	1700
Volume to Capacity	0.12	0.40	0.21	0.03	0.17
Queue Length 95th (ft)	10	0	0	2	0
Control Delay (s)	11.9	0.0	0.0	1.6	0.0
Lane LOS	B			A	
Approach Delay (s)	11.9	0.0		0.6	
Approach LOS	B				

Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	39.4%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	18	24	189	4	2	113
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	20	26	205	4	2	123
Pedestrians	21		2			11
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	2		0			1
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						452
pX, platoon unblocked						
vC, conflicting volume	358	240			231	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	358	240			231	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	97			100	
cM capacity (veh/h)	627	778			1314	

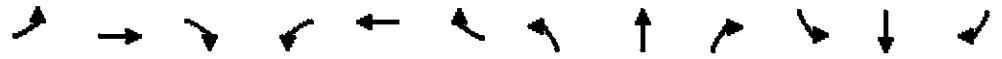
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	46	210	125
Volume Left	20	0	2
Volume Right	26	4	0
cSH	705	1700	1314
Volume to Capacity	0.06	0.12	0.00
Queue Length 95th (ft)	5	0	0
Control Delay (s)	10.5	0.0	0.1
Lane LOS	B		A
Approach Delay (s)	10.5	0.0	0.1
Approach LOS	B		

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	24.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	3	1	27	34	41	17
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	1	29	37	45	18
Pedestrians	11			2	3	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	163	67	74			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	163	67	74			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	98			
cM capacity (veh/h)	802	986	1512			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	4	66	63
Volume Left	3	29	0
Volume Right	1	0	18
cSH	841	1512	1700
Volume to Capacity	0.01	0.02	0.04
Queue Length 95th (ft)	0	1	0
Control Delay (s)	9.3	3.4	0.0
Lane LOS	A	A	
Approach Delay (s)	9.3	3.4	0.0
Approach LOS	A		

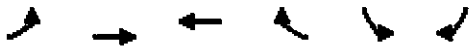
Intersection Summary				
Average Delay	2.0			
Intersection Capacity Utilization	20.6%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↱			↱	
Volume (veh/h)	7	1352	30	1	1083	18	1	0	129	2	0	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)	8	1470	33	1	1177	20	1	0	140	2	0	5
Pedestrians		1			2			11			4	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			1			0	
Right turn flare (veh)												
Median type		None			TWLTL							
Median storage veh)					2							
Upstream signal (ft)		369										
pX, platoon unblocked				0.64			0.64	0.64	0.64	0.64	0.64	
vC, conflicting volume	1201			1513			2109	2715	764	2085	2722	603
vC1, stage 1 conf vol							1512	1512		1193	1193	
vC2, stage 2 conf vol							597	1203		892	1528	
vCu, unblocked vol	1201			693			1618	2558	0	1581	2568	603
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 %	99			100			99	100	80	99	100	99
cM capacity (veh/h)	575			573			215	176	691	180	177	440

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	742	767	590	608	1	140	2	5
Volume Left	8	0	1	0	1	0	2	0
Volume Right	0	33	0	20	0	140	0	5
cSH	575	1700	573	1700	215	691	180	440
Volume to Capacity	0.01	0.45	0.00	0.36	0.01	0.20	0.01	0.01
Queue Length 95th (ft)	1	0	0	0	0	19	1	1
Control Delay (s)	0.4	0.0	0.1	0.0	21.8	11.5	25.2	13.3
Lane LOS	A		A		C	B	D	B
Approach Delay (s)	0.2		0.0		11.6		16.7	
Approach LOS					B		C	

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	58.5%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	17	66	89	0	0	14
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)	18	72	97	0	0	15
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		145				
pX, platoon unblocked						
vC, conflicting volume	97				205	97
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	97				205	97
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				100	98
cM capacity (veh/h)	1497				773	960

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	90	97	15
Volume Left	18	0	0
Volume Right	0	0	15
cSH	1497	1700	960
Volume to Capacity	0.01	0.06	0.02
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	1.4		
Intersection Capacity Utilization	21.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	37	195	62	11
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	40	212	67	12
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	366	73	79			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	366	73	79			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	97			
cM capacity (veh/h)	617	988	1519			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	0	252	79
Volume Left	0	40	0
Volume Right	0	0	12
cSH	1700	1519	1700
Volume to Capacity	0.00	0.03	0.05
Queue Length 95th (ft)	0	2	0
Control Delay (s)	0.0	1.4	0.0
Lane LOS	A	A	
Approach Delay (s)	0.0	1.4	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	22.3%	ICU Level of Service	A
Analysis Period (min)	15		

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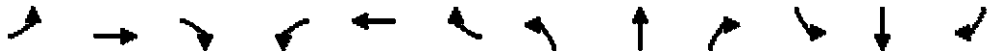
HCM Signalized Intersection Capacity Analysis
26: Main St. & Ogden Ave.

9/21/2011

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	261	959	116	138	1113	164	178	395	110	177	447	502
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.0		3.0	6.0		3.0	6.0		3.0	6.0	3.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.98		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3476		1770	3460		1768	3398		1767	3539	1565
Flt Permitted	0.08	1.00		0.15	1.00		0.36	1.00		0.26	1.00	1.00
Satd. Flow (perm)	148	3476		271	3460		677	3398		486	3539	1565
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	284	1042	126	150	1210	178	193	429	120	192	486	546
RTOR Reduction (vph)	0	7	0	0	8	0	0	19	0	0	0	26
Lane Group Flow (vph)	284	1161	0	150	1380	0	193	530	0	192	486	520
Confl. Peds. (#/hr)	5		2	2		5	3		9	9		3
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	72.0	59.1		57.1	47.2		41.0	33.0		45.0	35.0	56.8
Effective Green, g (s)	72.0	59.1		57.1	47.2		41.0	33.0		45.0	35.0	56.8
Actuated g/C Ratio	0.55	0.45		0.44	0.36		0.32	0.25		0.35	0.27	0.44
Clearance Time (s)	3.0	6.0		3.0	6.0		3.0	6.0		3.0	6.0	3.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	354	1580		233	1256		281	863		267	953	684
v/s Ratio Prot	c0.13	0.33		0.05	c0.40		0.04	0.16		c0.06	0.14	c0.13
v/s Ratio Perm	0.31			0.23			0.17			0.19		0.20
v/c Ratio	0.80	0.73		0.64	1.10		0.69	0.61		0.72	0.51	0.76
Uniform Delay, d1	37.9	29.0		24.4	41.4		36.6	42.9		32.7	40.2	30.8
Progression Factor	1.64	0.82		1.00	1.00		0.96	0.96		1.00	1.00	1.00
Incremental Delay, d2	10.3	1.5		6.0	57.0		6.7	3.2		8.9	1.9	4.9
Delay (s)	72.2	25.2		30.4	98.4		41.9	44.2		41.6	42.2	35.7
Level of Service	E	C		C	F		D	D		D	D	D
Approach Delay (s)		34.4			91.8			43.6			39.2	
Approach LOS		C			F			D			D	

Intersection Summary			
HCM Average Control Delay	54.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	91.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	112	1172	51	47	1668	69	73	62	64	70	48	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.0		3.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.98		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.97	1.00		0.97	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.92		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3512		1770	3514		1717	1680		1723	1632	
Flt Permitted	0.05	1.00		0.14	1.00		0.62	1.00		0.63	1.00	
Satd. Flow (perm)	100	3512		265	3514		1117	1680		1138	1632	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	122	1274	55	51	1813	75	79	67	70	76	52	90
RTOR Reduction (vph)	0	2	0	0	2	0	0	29	0	0	48	0
Lane Group Flow (vph)	122	1327	0	51	1886	0	79	108	0	76	94	0
Confl. Peds. (#/hr)	2		4	4		2	16		14	14		16
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	85.6	77.0		77.1	71.5		32.4	32.4		32.4	32.4	
Effective Green, g (s)	85.6	77.0		77.1	71.5		32.4	32.4		32.4	32.4	
Actuated g/C Ratio	0.66	0.59		0.59	0.55		0.25	0.25		0.25	0.25	
Clearance Time (s)	3.0	6.0		3.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	208	2080		222	1933		278	419		284	407	
v/s Ratio Prot	c0.05	0.38		0.01	c0.54			0.06			0.06	
v/s Ratio Perm	0.34			0.13			c0.07			0.07		
v/c Ratio	0.59	0.64		0.23	0.98		0.28	0.26		0.27	0.23	
Uniform Delay, d1	33.2	17.4		13.3	28.4		39.4	39.1		39.3	38.9	
Progression Factor	1.00	1.00		0.63	0.55		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.2	0.7		0.2	8.0		2.6	1.5		2.3	1.3	
Delay (s)	37.4	18.0		8.6	23.5		42.0	40.6		41.6	40.2	
Level of Service	D	B		A	C		D	D		D	D	
Approach Delay (s)		19.6			23.1			41.1			40.7	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM Average Control Delay	23.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	90.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
31: Main St. & Grant St.

9/22/2011

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	26	30	607	33	22	689
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0			6.0
Lane Util. Factor	1.00		0.95			0.95
Frt	0.93		0.99			1.00
Flt Protected	0.98		1.00			1.00
Satd. Flow (prot)	1688		3512			3534
Flt Permitted	0.98		1.00			0.92
Satd. Flow (perm)	1688		3512			3254
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	33	660	36	24	749
RTOR Reduction (vph)	31	0	6	0	0	0
Lane Group Flow (vph)	30	0	690	0	0	773
Turn Type	NA		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	4.4		28.6			28.6
Effective Green, g (s)	4.4		28.6			28.6
Actuated g/C Ratio	0.07		0.44			0.44
Clearance Time (s)	6.0		6.0			6.0
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	114		1545			1432
v/s Ratio Prot	c0.02		0.20			
v/s Ratio Perm						c0.24
v/c Ratio	0.27		0.45			0.54
Uniform Delay, d1	28.8		12.7			13.4
Progression Factor	1.00		1.00			1.09
Incremental Delay, d2	1.2		0.9			1.3
Delay (s)	30.0		13.6			15.8
Level of Service	C		B			B
Approach Delay (s)	30.0		13.6			15.8
Approach LOS	C		B			B

Intersection Summary			
HCM Average Control Delay	15.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	32.0
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

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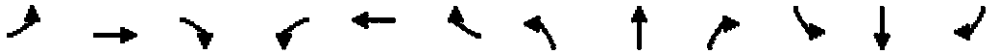
HCM Unsignalized Intersection Capacity Analysis
5: Prince St. & Ogden Ave.

9/21/2011

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1290	16	14	1779	5	46
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)	1402	17	15	1934	5	50
Pedestrians				26	5	
Lane Width (ft)				12.0	12.0	
Walking Speed (ft/s)				4.0	4.0	
Percent Blockage				2	0	
Right turn flare (veh)						
Median type	None			TWLTL		
Median storage veh)				2		
Upstream signal (ft)	320			673		
pX, platoon unblocked			0.75		0.78	0.75
vC, conflicting volume			1425		2413	741
vC1, stage 1 conf vol					1416	
vC2, stage 2 conf vol					997	
vCu, unblocked vol			897		791	0
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 %			97		98	94
cM capacity (veh/h)			561		265	791

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	935	485	15	967	967	55
Volume Left	0	0	15	0	0	5
Volume Right	0	17	0	0	0	50
cSH	1700	1700	561	1700	1700	662
Volume to Capacity	0.55	0.29	0.03	0.57	0.57	0.08
Queue Length 95th (ft)	0	0	2	0	0	7
Control Delay (s)	0.0	0.0	11.6	0.0	0.0	10.9
Lane LOS			B			B
Approach Delay (s)	0.0		0.1			10.9
Approach LOS						B

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕↕			↕↕	
Volume (veh/h)	13	12	20	4	8	6	9	621	4	12	670	33
Sign Control		Stop			Stop			Free			Free	
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)	14	13	22	4	9	7	10	675	4	13	728	36
Pedestrians		19			2			1			6	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		2			0			0			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											658	
pX, platoon unblocked												
vC, conflicting volume	1165	1492	402	1118	1508	348	783			681		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1165	1492	402	1118	1508	348	783			681		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	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 %	89	89	96	97	92	99	99			99		
cM capacity (veh/h)	132	117	588	137	114	644	818			906		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	49	20	347	342	377	400
Volume Left	14	4	10	0	13	0
Volume Right	22	7	0	4	0	36
cSH	191	166	818	1700	906	1700
Volume to Capacity	0.26	0.12	0.01	0.20	0.01	0.24
Queue Length 95th (ft)	24	10	1	0	1	0
Control Delay (s)	30.2	29.5	0.4	0.0	0.5	0.0
Lane LOS	D	D	A		A	
Approach Delay (s)	30.2	29.5	0.2		0.2	
Approach LOS	D	D				

Intersection Summary				
Average Delay	1.5			
Intersection Capacity Utilization	40.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	0	24	22	7
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	26	24	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	54	28	32			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	54	28	32			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	954	1048	1581			

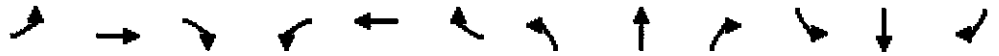
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	0	26	32
Volume Left	0	0	0
Volume Right	0	0	8
cSH	1700	1581	1700
Volume to Capacity	0.00	0.00	0.02
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS	A		
Approach Delay (s)	0.0	0.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	32	36	152	0	0	160
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	35	39	165	0	0	174
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						667
pX, platoon unblocked						
vC, conflicting volume	339	165			165	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	339	165			165	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	95	96			100	
cM capacity (veh/h)	657	879			1413	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	74	165	174
Volume Left	35	0	0
Volume Right	39	0	0
cSH	758	1700	1413
Volume to Capacity	0.10	0.10	0.00
Queue Length 95th (ft)	8	0	0
Control Delay (s)	10.3	0.0	0.0
Lane LOS	B		
Approach Delay (s)	10.3	0.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	19.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	29	0	16	14	0	2	9	121	1	2	159	35
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)	32	0	17	15	0	2	10	132	1	2	173	38

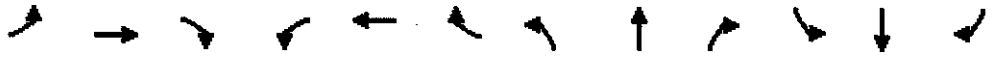
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	49	17	142	213
Volume Left (vph)	32	15	10	2
Volume Right (vph)	17	2	1	38
Hadj (s)	-0.05	0.13	0.04	-0.07
Departure Headway (s)	4.7	4.9	4.3	4.1
Degree Utilization, x	0.06	0.02	0.17	0.25
Capacity (veh/h)	710	674	807	851
Control Delay (s)	8.0	8.0	8.2	8.5
Approach Delay (s)	8.0	8.0	8.2	8.5
Approach LOS	A	A	A	A

Intersection Summary			
Delay	8.3		
HCM Level of Service	A		
Intersection Capacity Utilization	31.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	0	1	7	24	14	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1	8	26	15	9

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total (vph)	1	34	24
Volume Left (vph)	0	8	0
Volume Right (vph)	1	0	9
Hadj (s)	-0.57	0.08	-0.18
Departure Headway (s)	3.5	4.0	3.7
Degree Utilization, x	0.00	0.04	0.02
Capacity (veh/h)	1018	895	953
Control Delay (s)	6.5	7.2	6.8
Approach Delay (s)	6.5	7.2	6.8
Approach LOS	A	A	A

Intersection Summary					
Delay		7.0			
HCM Level of Service		A			
Intersection Capacity Utilization		26.9%	ICU Level of Service		A
Analysis Period (min)		15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	15	18	5	17	25	75	5	16	12	29	39	11
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	20	5	18	27	82	5	17	13	32	42	12

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	41	127	36	86
Volume Left (vph)	16	18	5	32
Volume Right (vph)	5	82	13	12
Hadj (s)	0.03	-0.32	-0.15	0.02
Departure Headway (s)	4.3	3.9	4.2	4.3
Degree Utilization, x	0.05	0.14	0.04	0.10
Capacity (veh/h)	798	894	812	799
Control Delay (s)	7.6	7.5	7.4	7.8
Approach Delay (s)	7.6	7.5	7.4	7.8
Approach LOS	A	A	A	A

Intersection Summary			
Delay	7.6		
HCM Level of Service	A		
Intersection Capacity Utilization	29.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	21	13	0	0	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	23	14	0	0	0	0
Pedestrians	78		17			2
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	7		1			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	95	80			78	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	95	80			78	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	98			100	
cM capacity (veh/h)	834	915			1422	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	37	0	0
Volume Left	23	0	0
Volume Right	14	0	0
cSH	863	1700	1700
Volume to Capacity	0.04	0.00	0.00
Queue Length 95th (ft)	3	0	0
Control Delay (s)	9.4	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.4	0.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	9.4		
Intersection Capacity Utilization	23.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	11	686	707	15
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	12	746	768	16
Pedestrians	15				3	
Lane Width (ft)	0.0				12.0	
Walking Speed (ft/s)	4.0				4.0	
Percent Blockage	0				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				905	321	
pX, platoon unblocked	0.89	0.89	0.89			
vC, conflicting volume	1191	407	800			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	960	76	519			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	99			
cM capacity (veh/h)	222	860	925			

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	12	373	373	512	272
Volume Left	12	0	0	0	0
Volume Right	0	0	0	0	16
cSH	925	1700	1700	1700	1700
Volume to Capacity	0.01	0.22	0.22	0.30	0.16
Queue Length 95th (ft)	1	0	0	0	0
Control Delay (s)	8.9	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	0.1			0.0	
Approach LOS					

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	23.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	1	66	631	6	21	686
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	72	686	7	23	746
Pedestrians	19		3			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	2		0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			645			581
pX, platoon unblocked	0.89					
vC, conflicting volume	1130	370			711	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	905	370			711	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	88			97	
cM capacity (veh/h)	236	614			870	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	73	457	235	271	497
Volume Left	1	0	0	23	0
Volume Right	72	0	7	0	0
cSH	600	1700	1700	870	1700
Volume to Capacity	0.12	0.27	0.14	0.03	0.29
Queue Length 95th (ft)	10	0	0	2	0
Control Delay (s)	11.8	0.0	0.0	1.0	0.0
Lane LOS	B			A	
Approach Delay (s)	11.8	0.0		0.4	
Approach LOS	B				

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	46.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	21	14	176	8	4	139
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	23	15	191	9	4	151
Pedestrians	15		3			
Lane Width (ft)	12.0		12.0			
Walking Speed (ft/s)	4.0		4.0			
Percent Blockage	1		0			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						452
pX, platoon unblocked						
vC, conflicting volume	373	211			215	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	373	211			215	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	98			100	
cM capacity (veh/h)	616	819			1338	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	38	200	155
Volume Left	23	0	4
Volume Right	15	9	0
cSH	684	1700	1338
Volume to Capacity	0.06	0.12	0.00
Queue Length 95th (ft)	4	0	0
Control Delay (s)	10.6	0.0	0.2
Lane LOS	B		A
Approach Delay (s)	10.6	0.0	0.2
Approach LOS	B		

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	21.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	8	2	10	18	27	29
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	2	11	20	29	32
Pedestrians	16				8	
Lane Width (ft)	12.0				12.0	
Walking Speed (ft/s)	4.0				4.0	
Percent Blockage	1				1	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	110	61	77			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	110	61	77			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	100	99			
cM capacity (veh/h)	863	991	1502			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	11	30	61
Volume Left	9	11	0
Volume Right	2	0	32
cSH	886	1502	1700
Volume to Capacity	0.01	0.01	0.04
Queue Length 95th (ft)	1	1	0
Control Delay (s)	9.1	2.7	0.0
Lane LOS	A	A	
Approach Delay (s)	9.1	2.7	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	18.2%	ICU Level of Service	A
Analysis Period (min)	15		

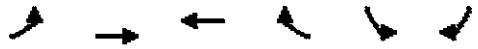
HCM Unsignalized Intersection Capacity Analysis
27: Highland Ave. & Ogden Ave.

9/21/2011

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↱			↱	
Volume (veh/h)	0	1205	24	2	1392	34	2	0	50	1	0	33
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)	0	1310	26	2	1513	37	2	0	54	1	0	36
Pedestrians		2						6			13	
Lane Width (ft)		12.0						12.0			12.0	
Walking Speed (ft/s)		4.0						4.0			4.0	
Percent Blockage		0						1			1	
Right turn flare (veh)												
Median type		None			TWLTL							
Median storage veh)					2							
Upstream signal (ft)		369										
pX, platoon unblocked				0.73			0.73	0.73	0.73	0.73	0.73	
vC, conflicting volume	1563			1342			2128	2896	674	2258	2891	790
vC1, stage 1 conf vol							1329	1329		1549	1549	
vC2, stage 2 conf vol							799	1567		709	1342	
vCu, unblocked vol	1563			730			1806	2858	0	1985	2850	790
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 %	100			100			99	100	93	99	100	89
cM capacity (veh/h)	414			632			201	141	788	113	142	329

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	655	681	759	793	2	54	1	36
Volume Left	0	0	2	0	2	0	1	0
Volume Right	0	26	0	37	0	54	0	36
cSH	414	1700	632	1700	201	788	113	329
Volume to Capacity	0.00	0.40	0.00	0.47	0.01	0.07	0.01	0.11
Queue Length 95th (ft)	0	0	0	0	1	6	1	9
Control Delay (s)	0.0	0.0	0.1	0.0	23.1	9.9	37.1	17.3
Lane LOS			A		C	A	E	C
Approach Delay (s)	0.0		0.0		10.4		17.9	
Approach LOS					B		C	

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	51.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	17	38	41	0	0	15
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)	18	41	45	0	0	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		145				
pX, platoon unblocked						
vC, conflicting volume	45				123	45
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	45				123	45
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				100	98
cM capacity (veh/h)	1564				862	1025

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	60	45	16
Volume Left	18	0	0
Volume Right	0	0	16
cSH	1564	1700	1025
Volume to Capacity	0.01	0.03	0.02
Queue Length 95th (ft)	1	0	1
Control Delay (s)	2.3	0.0	8.6
Lane LOS	A		A
Approach Delay (s)	2.3	0.0	8.6
Approach LOS			A

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	19.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	13	26	0	106	53	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	14	28	0	115	58	0
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	173	58	58			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	173	58	58			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	97	100			
cM capacity (veh/h)	817	1009	1547			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	42	115	58
Volume Left	14	0	0
Volume Right	28	0	0
cSH	935	1547	1700
Volume to Capacity	0.05	0.00	0.03
Queue Length 95th (ft)	4	0	0
Control Delay (s)	9.0	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.0	0.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	15.6%	ICU Level of Service	A
Analysis Period (min)	15		

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Appendix C

Future Capacity Analysis Worksheets

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HCM Signalized Intersection Capacity Analysis
26: Main St. & Ogden Ave.

10/3/2011

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	547	1300	62	99	906	131	211	726	57	129	269	263
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.0		3.0	6.0		3.0	6.0		3.0	6.0	3.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.98		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3515		1770	3465		1768	3490		1770	3539	1573
Flt Permitted	0.11	1.00		0.12	1.00		0.50	1.00		0.12	1.00	1.00
Satd. Flow (perm)	213	3515		233	3465		924	3490		233	3539	1573
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	595	1413	67	108	985	142	229	789	62	140	292	286
RTOR Reduction (vph)	0	3	0	0	9	0	0	4	0	0	0	35
Lane Group Flow (vph)	595	1477	0	108	1118	0	229	847	0	140	292	251
Confl. Peds. (#/hr)	2					2	1		13	13		1
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	72.0	59.9		41.1	32.0		44.3	33.3		41.7	32.0	69.0
Effective Green, g (s)	72.0	59.9		41.1	32.0		44.3	33.3		41.7	32.0	69.0
Actuated g/C Ratio	0.55	0.46		0.32	0.25		0.34	0.26		0.32	0.25	0.53
Clearance Time (s)	3.0	6.0		3.0	6.0		3.0	6.0		3.0	6.0	3.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	561	1620		181	853		386	894		189	871	835
v/s Ratio Prot	c0.30	0.42		0.04	c0.32		c0.05	c0.24		c0.06	0.08	0.09
v/s Ratio Perm	0.29			0.15			0.15			0.18		0.07
v/c Ratio	1.06	0.91		0.60	1.31		0.59	0.95		0.74	0.34	0.30
Uniform Delay, d1	38.5	32.6		34.2	49.0		33.1	47.5		35.3	40.3	17.0
Progression Factor	0.56	1.02		1.00	1.00		0.66	0.73		1.00	1.00	1.00
Incremental Delay, d2	42.9	3.9		5.2	148.2		1.7	15.3		14.4	1.0	0.2
Delay (s)	64.5	37.2		39.4	197.2		23.4	50.0		49.7	41.3	17.2
Level of Service	E	D		D	F		C	D		D	D	B
Approach Delay (s)		45.0			183.4			44.4			33.4	
Approach LOS		D			F			D			C	

Intersection Summary				
HCM Average Control Delay	76.7	HCM Level of Service		E
HCM Volume to Capacity ratio	1.05			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)		15.0
Intersection Capacity Utilization	105.3%	ICU Level of Service		G
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	137	1823	49	38	1283	35	105	41	57	40	17	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.0		3.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.97		1.00	0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.96	1.00		0.97	1.00	
Frt	1.00	1.00		1.00	1.00		1.00	0.91		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3523		1770	3523		1702	1654		1715	1606	
Flt Permitted	0.10	1.00		0.05	1.00		0.72	1.00		0.68	1.00	
Satd. Flow (perm)	195	3523		96	3523		1286	1654		1225	1606	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	149	1982	53	41	1395	38	114	45	62	43	18	42
RTOR Reduction (vph)	0	1	0	0	2	0	0	38	0	0	33	0
Lane Group Flow (vph)	149	2034	0	41	1431	0	114	69	0	43	27	0
Confl. Peds. (#/hr)	2		1	1		2	17		15	15		17
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	89.1	80.9		82.5	77.3		28.9	28.9		28.9	28.9	
Effective Green, g (s)	89.1	80.9		82.5	77.3		28.9	28.9		28.9	28.9	
Actuated g/C Ratio	0.69	0.62		0.63	0.59		0.22	0.22		0.22	0.22	
Clearance Time (s)	3.0	6.0		3.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	240	2192		128	2095		286	368		272	357	
v/s Ratio Prot	c0.04	c0.58		0.01	0.41			0.04			0.02	
v/s Ratio Perm	0.38			0.19			c0.09			0.04		
v/c Ratio	0.62	0.93		0.32	0.68		0.40	0.19		0.16	0.08	
Uniform Delay, d1	15.3	21.9		25.3	18.0		43.1	41.0		40.7	40.0	
Progression Factor	1.00	1.00		1.56	0.95		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.9	7.5		0.1	0.1		4.1	1.1		1.2	0.4	
Delay (s)	20.2	29.4		39.4	17.2		47.2	42.1		42.0	40.4	
Level of Service	C	C		D	B		D	D		D	D	
Approach Delay (s)		28.8			17.9			44.8			41.1	
Approach LOS		C			B			D			D	

Intersection Summary				
HCM Average Control Delay	26.0	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.75			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	9.0	
Intersection Capacity Utilization	82.0%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	48	60	1024	69	26	384
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0			6.0
Lane Util. Factor	1.00		0.95			0.95
Frt	0.93		0.99			1.00
Flt Protected	0.98		1.00			1.00
Satd. Flow (prot)	1686		3506			3528
Flt Permitted	0.98		1.00			0.78
Satd. Flow (perm)	1686		3506			2777
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	52	65	1113	75	28	417
RTOR Reduction (vph)	59	0	7	0	0	0
Lane Group Flow (vph)	58	0	1181	0	0	445
Turn Type	NA		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	5.8		27.2			27.2
Effective Green, g (s)	5.8		27.2			27.2
Actuated g/C Ratio	0.09		0.42			0.42
Clearance Time (s)	6.0		6.0			6.0
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	150		1467			1162
v/s Ratio Prot	c0.03		c0.34			
v/s Ratio Perm						0.16
v/c Ratio	0.39		0.81			0.38
Uniform Delay, d1	27.9		16.6			13.1
Progression Factor	1.00		1.00			0.95
Incremental Delay, d2	1.6		4.8			0.9
Delay (s)	29.6		21.4			13.3
Level of Service	C		C			B
Approach Delay (s)	29.6		21.4			13.3
Approach LOS	C		C			B

Intersection Summary			
HCM Average Control Delay	19.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	32.0
Intersection Capacity Utilization	46.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

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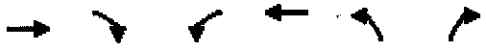
HCM Unsignalized Intersection Capacity Analysis
5: Prince St. & Ogden Ave.

10/3/2011



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1907	15	20	1360	3	8
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)	2073	16	22	1478	3	9
Pedestrians	13			12	2	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	0	
Right turn flare (veh)						
Median type	None			TWLTL		
Median storage veh)				2		
Upstream signal (ft)	320			673		
pX, platoon unblocked			0.42		0.54	0.42
vC, conflicting volume			2091		2879	1059
vC1, stage 1 conf vol					2083	
vC2, stage 2 conf vol					796	
vCu, unblocked vol			836		803	0
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 %			93		98	98
cM capacity (veh/h)			333		162	450

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	1382	707	22	739	739	12
Volume Left	0	0	22	0	0	3
Volume Right	0	16	0	0	0	9
cSH	1700	1700	333	1700	1700	303
Volume to Capacity	0.81	0.42	0.07	0.43	0.43	0.04
Queue Length 95th (ft)	0	0	5	0	0	3
Control Delay (s)	0.0	0.0	16.6	0.0	0.0	17.4
Lane LOS			C			C
Approach Delay (s)	0.0		0.2			17.4
Approach LOS						C

Intersection Summary				
Average Delay	0.2			
Intersection Capacity Utilization	66.5%	ICU Level of Service		C
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	23	13	16	1	10	14	20	972	11	7	386	39
Sign Control		Stop			Stop			Free			Free	
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)	25	14	17	1	11	15	22	1057	12	8	420	42
Pedestrians		7			8							
Lane Width (ft)		12.0			12.0							
Walking Speed (ft/s)		4.0			4.0							
Percent Blockage		1			1							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											658	
pX, platoon unblocked	0.99	0.99	0.99	0.99	0.99		0.99					
vC, conflicting volume	1055	1583	238	1363	1598	542	469			1076		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1036	1569	210	1347	1584	542	444			1076		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	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 %	84	86	98	99	89	97	98			99		
cM capacity (veh/h)	157	104	783	91	102	481	1095			639		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	57	27	550	540	217	252
Volume Left	25	1	22	0	8	0
Volume Right	17	15	0	12	0	42
cSH	178	181	1095	1700	639	1700
Volume to Capacity	0.32	0.15	0.02	0.32	0.01	0.15
Queue Length 95th (ft)	32	13	2	0	1	0
Control Delay (s)	34.3	28.4	0.6	0.0	0.5	0.0
Lane LOS	D	D	A		A	
Approach Delay (s)	34.3	28.4	0.3		0.2	
Approach LOS	D	D				

Intersection Summary				
Average Delay	1.9			
Intersection Capacity Utilization	57.8%	ICU Level of Service	B	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	25	15	8	41	21	23	23	158	8	19	47	46
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)	27	16	9	45	23	25	25	172	9	21	51	50

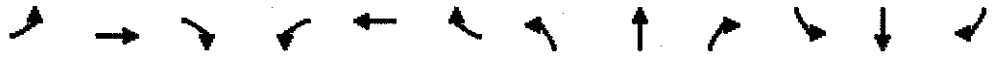
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	52	92	205	122
Volume Left (vph)	27	45	25	21
Volume Right (vph)	9	25	9	50
Hadj (s)	0.04	-0.03	0.03	-0.18
Departure Headway (s)	4.8	4.7	4.4	4.3
Degree Utilization, x	0.07	0.12	0.25	0.15
Capacity (veh/h)	686	709	782	789
Control Delay (s)	8.2	8.3	8.9	8.0
Approach Delay (s)	8.2	8.3	8.9	8.0
Approach LOS	A	A	A	A

Intersection Summary			
Delay	8.5		
HCM Level of Service	A		
Intersection Capacity Utilization	30.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	0	53	80	9	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	58	87	10	0	1

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total (vph)	58	97	1
Volume Left (vph)	0	87	0
Volume Right (vph)	58	0	1
Hadj (s)	-0.57	0.21	-0.57
Departure Headway (s)	3.6	4.2	3.5
Degree Utilization, x	0.06	0.11	0.00
Capacity (veh/h)	982	831	990
Control Delay (s)	6.8	7.8	6.5
Approach Delay (s)	6.8	7.8	6.5
Approach LOS	A	A	A

Intersection Summary			
Delay	7.4		
HCM Level of Service	A		
Intersection Capacity Utilization	21.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	48	19	6	15	73	120	14	110	8	35	22	7
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)	52	21	7	16	79	130	15	120	9	38	24	8

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	79	226	143	70
Volume Left (vph)	52	16	15	38
Volume Right (vph)	7	130	9	8
Hadj (s)	0.12	-0.30	0.02	0.08
Departure Headway (s)	4.8	4.2	4.7	4.9
Degree Utilization, x	0.11	0.27	0.19	0.09
Capacity (veh/h)	696	804	716	681
Control Delay (s)	8.4	8.8	8.8	8.4
Approach Delay (s)	8.4	8.8	8.8	8.4
Approach LOS	A	A	A	A

Intersection Summary			
Delay	8.7		
HCM Level of Service	A		
Intersection Capacity Utilization	37.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	19	8	3	0	0	35
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	21	9	3	0	0	38
Pedestrians	45		3			
Lane Width (ft)	12.0		12.0			
Walking Speed (ft/s)	4.0		4.0			
Percent Blockage	4		0			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	89	48			48	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	89	48			48	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	99			100	
cM capacity (veh/h)	875	982			1500	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	29	3	38
Volume Left	21	0	0
Volume Right	9	0	0
cSH	904	1700	1700
Volume to Capacity	0.03	0.00	0.02
Queue Length 95th (ft)	3	0	0
Control Delay (s)	9.1	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.1	0.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	3.8		
Intersection Capacity Utilization	21.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	8	1018	436	27
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	9	1107	474	29
Pedestrians	14					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				905	321	
pX, platoon unblocked	0.81	0.94	0.94			
vC, conflicting volume	1073	266	517			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	274	84	352			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	99			
cM capacity (veh/h)	556	899	1128			

Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	9	553	553	316	187
Volume Left	9	0	0	0	0
Volume Right	0	0	0	0	29
cSH	1128	1700	1700	1700	1700
Volume to Capacity	0.01	0.33	0.33	0.19	0.11
Queue Length 95th (ft)	1	0	0	0	0
Control Delay (s)	8.2	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	0.1			0.0	
Approach LOS					

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	31.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	67	959	43	31	406
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	73	1042	47	34	441
Pedestrians	13					6
Lane Width (ft)	12.0					12.0
Walking Speed (ft/s)	4.0					4.0
Percent Blockage	1					1
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			645			581
pX, platoon unblocked	0.76	0.73			0.73	
vC, conflicting volume	1367	564			1102	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	564	0			416	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	91			96	
cM capacity (veh/h)	328	784			828	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	73	695	394	181	294
Volume Left	0	0	0	34	0
Volume Right	73	0	47	0	0
cSH	784	1700	1700	828	1700
Volume to Capacity	0.09	0.41	0.23	0.04	0.17
Queue Length 95th (ft)	8	0	0	3	0
Control Delay (s)	10.1	0.0	0.0	2.1	0.0
Lane LOS	B			A	
Approach Delay (s)	10.1	0.0		0.8	
Approach LOS	B				

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

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	20	28	183	4	2	98
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	30	199	4	2	107
Pedestrians	21		2			11
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	2		0			1
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						452
pX, platoon unblocked						
vC, conflicting volume	335	233			224	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	335	233			224	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	96			100	
cM capacity (veh/h)	647	785			1321	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	52	203	109
Volume Left	22	0	2
Volume Right	30	4	0
cSH	721	1700	1321
Volume to Capacity	0.07	0.12	0.00
Queue Length 95th (ft)	6	0	0
Control Delay (s)	10.4	0.0	0.2
Lane LOS	B		A
Approach Delay (s)	10.4	0.0	0.2
Approach LOS	B		

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	24.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰	↑		↰	↑	
Volume (veh/h)	7	1374	92	1	1109	18	1	0	134	2	0	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)	8	1493	100	1	1205	20	1	0	146	2	0	5
Pedestrians		1			2			11			4	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			1			0	
Right turn flare (veh)												
Median type		None			TWLTL							
Median storage veh)					2							
Upstream signal (ft)		369										
pX, platoon unblocked				0.60			0.60	0.60	0.60	0.60	0.60	
vC, conflicting volume	1229			1604			2181	2801	810	2131	2841	618
vC1, stage 1 conf vol							1570	1570		1221	1221	
vC2, stage 2 conf vol							611	1231		910	1620	
vCu, unblocked vol	1229			684			1641	2670	0	1558	2736	618
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 %	99			100			99	100	77	99	100	99
cM capacity (veh/h)	561			540			216	171	646	172	168	431

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	754	847	604	622	1	146	2	5
Volume Left	8	0	1	0	1	0	2	0
Volume Right	0	100	0	20	0	146	0	5
cSH	561	1700	540	1700	216	646	172	431
Volume to Capacity	0.01	0.50	0.00	0.37	0.01	0.23	0.01	0.01
Queue Length 95th (ft)	1	0	0	0	0	22	1	1
Control Delay (s)	0.4	0.0	0.1	0.0	21.7	12.2	26.2	13.5
Lane LOS	A		A		C	B	D	B
Approach Delay (s)	0.2		0.0		12.3		17.1	
Approach LOS					B		C	

Intersection Summary				
Average Delay	0.8			
Intersection Capacity Utilization	61.4%	ICU Level of Service		B
Analysis Period (min)	15			

HCM Signalized Intersection Capacity Analysis
26: Main St. & Ogden Ave.

10/3/2011

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	269	973	120	146	1140	168	217	410	117	181	459	519
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.0		3.0	6.0		3.0	6.0		3.0	6.0	3.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.98		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3475		1770	3460		1768	3396		1768	3539	1565
Flt Permitted	0.08	1.00		0.14	1.00		0.35	1.00		0.24	1.00	1.00
Satd. Flow (perm)	150	3475		256	3460		655	3396		452	3539	1565
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	292	1058	130	159	1239	183	236	446	127	197	499	564
RTOR Reduction (vph)	0	7	0	0	8	0	0	20	0	0	0	18
Lane Group Flow (vph)	292	1181	0	159	1414	0	236	553	0	197	499	546
Confl. Peds. (#/hr)	5		2	2		5	3		9	9		3
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	72.0	58.9		56.9	46.8		41.0	33.0		45.0	35.0	57.2
Effective Green, g (s)	72.0	58.9		56.9	46.8		41.0	33.0		45.0	35.0	57.2
Actuated g/C Ratio	0.55	0.45		0.44	0.36		0.32	0.25		0.35	0.27	0.44
Clearance Time (s)	3.0	6.0		3.0	6.0		3.0	6.0		3.0	6.0	3.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	360	1574		230	1246		275	862		258	953	689
v/s Ratio Prot	c0.14	0.34		0.05	c0.41		c0.05	0.16		c0.06	0.14	0.14
v/s Ratio Perm	0.31			0.25			c0.22			0.21		0.21
v/c Ratio	0.81	0.75		0.69	1.14		0.86	0.64		0.76	0.52	0.79
Uniform Delay, d1	38.1	29.5		24.9	41.6		39.9	43.2		33.3	40.4	31.3
Progression Factor	1.62	0.84		1.00	1.00		0.74	0.76		1.00	1.00	1.00
Incremental Delay, d2	10.7	1.7		8.6	71.2		21.4	3.5		12.6	2.1	6.2
Delay (s)	72.4	26.3		33.6	112.8		51.0	36.5		45.9	42.5	37.5
Level of Service	E	C		C	F		D	D		D	D	D
Approach Delay (s)		35.4			104.8			40.7			40.8	
Approach LOS		D			F			D			D	

Intersection Summary			
HCM Average Control Delay	59.0	HCM Level of Service	E
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	93.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	112	1205	53	47	1745	69	62	50	75	70	49	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.0		3.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.97		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.97	1.00		0.97	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.91		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3511		1770	3515		1717	1648		1723	1634	
Flt Permitted	0.05	1.00		0.13	1.00		0.62	1.00		0.63	1.00	
Satd. Flow (perm)	99	3511		244	3515		1114	1648		1141	1634	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	122	1310	58	51	1897	75	67	54	82	76	53	90
RTOR Reduction (vph)	0	2	0	0	2	0	0	42	0	0	47	0
Lane Group Flow (vph)	122	1366	0	51	1970	0	67	94	0	76	96	0
Confl. Peds. (#/hr)	2		4	4		2	16		14	14		16
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	85.6	77.0		77.7	72.1		32.4	32.4		32.4	32.4	
Effective Green, g (s)	85.6	77.0		77.7	72.1		32.4	32.4		32.4	32.4	
Actuated g/C Ratio	0.66	0.59		0.60	0.55		0.25	0.25		0.25	0.25	
Clearance Time (s)	3.0	6.0		3.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	200	2080		212	1949		278	411		284	407	
v/s Ratio Prot	c0.05	0.39		0.01	c0.56			0.06			0.06	
v/s Ratio Perm	0.35			0.13			0.06			c0.07		
v/c Ratio	0.61	0.66		0.24	1.01		0.24	0.23		0.27	0.24	
Uniform Delay, d1	34.1	17.7		13.5	29.0		39.0	38.9		39.3	38.9	
Progression Factor	1.00	1.00		0.64	0.58		1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.2	0.8		0.2	14.1		2.0	1.3		2.3	1.4	
Delay (s)	39.3	18.4		8.8	30.8		41.0	40.1		41.6	40.3	
Level of Service	D	B		A	C		D	D		D	D	
Approach Delay (s)		20.1			30.3			40.4			40.7	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM Average Control Delay	27.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	92.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	39	30	625	27	23	705
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0			6.0
Lane Util. Factor	1.00		0.95			0.95
Frt	0.94		0.99			1.00
Flt Protected	0.97		1.00			1.00
Satd. Flow (prot)	1704		3517			3534
Flt Permitted	0.97		1.00			0.92
Satd. Flow (perm)	1704		3517			3247
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	42	33	679	29	25	766
RTOR Reduction (vph)	31	0	5	0	0	0
Lane Group Flow (vph)	44	0	703	0	0	791
Turn Type	NA		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	4.6		28.4			28.4
Effective Green, g (s)	4.6		28.4			28.4
Actuated g/C Ratio	0.07		0.44			0.44
Clearance Time (s)	6.0		6.0			6.0
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	121		1537			1419
v/s Ratio Prot	c0.03		0.20			
v/s Ratio Perm						c0.24
v/c Ratio	0.37		0.46			0.56
Uniform Delay, d1	28.8		12.9			13.6
Progression Factor	1.00		1.00			1.09
Incremental Delay, d2	1.9		1.0			1.4
Delay (s)	30.7		13.9			16.2
Level of Service	C		B			B
Approach Delay (s)	30.7		13.9			16.2
Approach LOS	C		B			B

Intersection Summary			
HCM Average Control Delay	15.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	32.0
Intersection Capacity Utilization	50.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

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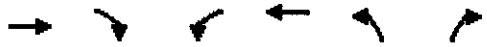
HCM Unsignalized Intersection Capacity Analysis
5: Prince St. & Ogden Ave.

10/3/2011



Movement	EBL	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1337	16	14	1854	4	37
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)	1453	17	15	2015	4	40
Pedestrians				26	5	
Lane Width (ft)				12.0	12.0	
Walking Speed (ft/s)				4.0	4.0	
Percent Blockage				2	0	
Right turn flare (veh)						
Median type	None			TWLTL		
Median storage veh)				2		
Upstream signal (ft)	320			673		
pX, platoon unblocked			0.74		0.78	0.74
vC, conflicting volume			1476		2505	766
vC1, stage 1 conf vol					1467	
vC2, stage 2 conf vol					1038	
vCu, unblocked vol			931		856	0
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 %			97		98	95
cM capacity (veh/h)			536		250	778

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	NB 3
Volume Total	969	502	15	1008	1008	45
Volume Left	0	0	15	0	0	4
Volume Right	0	17	0	0	0	40
cSH	1700	1700	536	1700	1700	645
Volume to Capacity	0.57	0.30	0.03	0.59	0.59	0.07
Queue Length 95th (ft)	0	0	2	0	0	6
Control Delay (s)	0.0	0.0	11.9	0.0	0.0	11.0
Lane LOS			B			B
Approach Delay (s)	0.0		0.1			11.0
Approach LOS						B

Intersection Summary				
Average Delay	0.2			
Intersection Capacity Utilization	67.6%	ICU Level of Service		C
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↑↑↑			↑↑↑	
Volume (veh/h)	12	12	20	4	8	6	9	635	4	12	707	33
Sign Control		Stop			Stop			Free			Free	
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)	13	13	22	4	9	7	10	690	4	13	768	36
Pedestrians		19			2			1			6	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		2			0			0			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											658	
pX, platoon unblocked	0.86	0.86	0.86	0.86	0.86		0.86					
vC, conflicting volume	1213	1548	422	1154	1563	355	823			697		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	933	1320	18	864	1338	355	482			697		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	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 %	92	90	98	98	93	99	99			99		
cM capacity (veh/h)	170	129	897	186	126	637	916			894		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	48	20	355	349	397	420
Volume Left	13	4	10	0	13	0
Volume Right	22	7	0	4	0	36
cSH	236	190	916	1700	894	1700
Volume to Capacity	0.20	0.10	0.01	0.21	0.01	0.25
Queue Length 95th (ft)	18	8	1	0	1	0
Control Delay (s)	24.1	26.1	0.4	0.0	0.5	0.0
Lane LOS	C	D	A		A	
Approach Delay (s)	24.1	26.1	0.2		0.2	
Approach LOS	C	D				

Intersection Summary				
Average Delay	1.2			
Intersection Capacity Utilization	41.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	28	0	16	30	0	2	9	122	2	4	142	33
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)	30	0	17	33	0	2	10	133	2	4	154	36

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	48	35	145	195
Volume Left (vph)	30	33	10	4
Volume Right (vph)	17	2	2	36
Hadj (s)	-0.06	0.18	0.04	-0.07
Departure Headway (s)	4.6	4.9	4.3	4.2
Degree Utilization, x	0.06	0.05	0.17	0.23
Capacity (veh/h)	712	675	800	839
Control Delay (s)	7.9	8.1	8.3	8.4
Approach Delay (s)	7.9	8.1	8.3	8.4
Approach LOS	A	A	A	A

Intersection Summary			
Delay	8.3		
HCM Level of Service	A		
Intersection Capacity Utilization	31.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	0	4	31	2	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	4	34	2	0	0

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total (vph)	4	36	0
Volume Left (vph)	0	34	0
Volume Right (vph)	4	0	0
Hadj (s)	-0.57	0.22	0.00
Departure Headway (s)	3.4	4.1	3.9
Degree Utilization, x	0.00	0.04	0.00
Capacity (veh/h)	1036	858	900
Control Delay (s)	6.4	7.3	6.9
Approach Delay (s)	6.4	7.3	0.0
Approach LOS	A	A	A

Intersection Summary			
Delay	7.2		
HCM Level of Service	A		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	15	18	5	17	25	78	6	24	12	20	56	25
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	20	5	18	27	85	7	26	13	22	61	27

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	41	130	46	110
Volume Left (vph)	16	18	7	22
Volume Right (vph)	5	85	13	27
Hadj (s)	0.03	-0.33	-0.11	-0.07
Departure Headway (s)	4.4	4.0	4.3	4.2
Degree Utilization, x	0.05	0.14	0.05	0.13
Capacity (veh/h)	778	871	796	813
Control Delay (s)	7.7	7.6	7.5	7.9
Approach Delay (s)	7.7	7.6	7.5	7.9
Approach LOS	A	A	A	A

Intersection Summary			
Delay	7.7		
HCM Level of Service	A		
Intersection Capacity Utilization	29.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	19	20	8	0	0	30
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	21	22	9	0	0	33
Pedestrians	78		17			2
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	7		1			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	136	89			87	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	136	89			87	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	98			100	
cM capacity (veh/h)	790	905			1411	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	42	9	33
Volume Left	21	0	0
Volume Right	22	0	0
cSH	845	1700	1700
Volume to Capacity	0.05	0.01	0.02
Queue Length 95th (ft)	4	0	0
Control Delay (s)	9.5	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.5	0.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	23.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	11	747	720	34
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	12	812	783	37
Pedestrians	15				3	
Lane Width (ft)	0.0				12.0	
Walking Speed (ft/s)	4.0				4.0	
Percent Blockage	0				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				905	321	
pX, platoon unblocked	0.91	0.88	0.88			
vC, conflicting volume	1249	425	835			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	783	84	548			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	99			
cM capacity (veh/h)	297	847	899			

Direction, Lane #	NE 1	NE 2	NE 3	SW 1	SW 2
Volume Total	12	406	406	522	298
Volume Left	12	0	0	0	0
Volume Right	0	0	0	0	37
cSH	899	1700	1700	1700	1700
Volume to Capacity	0.01	0.24	0.24	0.31	0.18
Queue Length 95th (ft)	1	0	0	0	0
Control Delay (s)	9.1	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	0.1			0.0	
Approach LOS					

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	24.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	8	110	647	9	24	696
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	120	703	10	26	757
Pedestrians	19		3			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	2		0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			645			581
pX, platoon unblocked	0.94	0.89			0.89	
vC, conflicting volume	1161	381			732	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	549	72			465	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	86			97	
cM capacity (veh/h)	420	855			962	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	128	469	244	278	504
Volume Left	9	0	0	26	0
Volume Right	120	0	10	0	0
cSH	799	1700	1700	962	1700
Volume to Capacity	0.16	0.28	0.14	0.03	0.30
Queue Length 95th (ft)	14	0	0	2	0
Control Delay (s)	10.4	0.0	0.0	1.1	0.0
Lane LOS	B			A	
Approach Delay (s)	10.4	0.0		0.4	
Approach LOS	B				

Intersection Summary				
Average Delay	1.0			
Intersection Capacity Utilization	51.9%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	25	37	140	8	4	141
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	40	152	9	4	153
Pedestrians	15		3			
Lane Width (ft)	12.0		12.0			
Walking Speed (ft/s)	4.0		4.0			
Percent Blockage	1		0			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						452
pX, platoon unblocked						
vC, conflicting volume	336	172			176	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	336	172			176	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	95			100	
cM capacity (veh/h)	647	861			1383	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	67	161	158
Volume Left	27	0	4
Volume Right	40	9	0
cSH	760	1700	1383
Volume to Capacity	0.09	0.09	0.00
Queue Length 95th (ft)	7	0	0
Control Delay (s)	10.2	0.0	0.2
Lane LOS	B		A
Approach Delay (s)	10.2	0.0	0.2
Approach LOS	B		

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	21.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰	↑		↰	↑	
Volume (veh/h)	0	1226	33	2	1430	34	2	0	63	1	0	33
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)	0	1333	36	2	1554	37	2	0	68	1	0	36
Pedestrians		2						6			13	
Lane Width (ft)		12.0						12.0			12.0	
Walking Speed (ft/s)		4.0						4.0			4.0	
Percent Blockage		0						1			1	
Right turn flare (veh)												
Median type		None			TWLTL							
Median storage veh)					2							
Upstream signal (ft)		369										
pX, platoon unblocked				0.72			0.72	0.72	0.72	0.72	0.72	
vC, conflicting volume	1604			1374			2176	2965	690	2325	2965	811
vC1, stage 1 conf vol							1357	1357		1590	1590	
vC2, stage 2 conf vol							819	1609		735	1374	
vCu, unblocked vol	1604			749			1859	2952	0	2065	2951	811
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 %	100			100			99	100	91	99	100	89
cM capacity (veh/h)	399			615			195	135	779	106	136	319

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	666	702	779	814	2	68	1	36
Volume Left	0	0	2	0	2	0	1	0
Volume Right	0	36	0	37	0	68	0	36
cSH	399	1700	615	1700	195	779	106	319
Volume to Capacity	0.00	0.41	0.00	0.48	0.01	0.09	0.01	0.11
Queue Length 95th (ft)	0	0	0	0	1	7	1	9
Control Delay (s)	0.0	0.0	0.1	0.0	23.7	10.1	39.2	17.7
Lane LOS			A		C	B	E	C
Approach Delay (s)	0.0		0.0		10.5		18.4	
Approach LOS					B		C	

Intersection Summary				
Average Delay	0.5			
Intersection Capacity Utilization	52.7%	ICU Level of Service		A
Analysis Period (min)	15			

PC-38-11 A petition seeking a right-of-way vacation of a 66-foot wide by 600-foot long portion of the Prince Street right-of-way located between Grant Street on the south and Sherman Street on the north and immediately west of and adjacent to Downers Grove North High School property in Downers Grove, IL; Community High School District 99, Petitioner; Village of Downers Grove, Owner.

Chairman Jirik swore in those individuals who would be speaking on File PC-38-11.

Mr. Stan Popovich, Planner, directed the commissioners' attention to the overhead and explained the petition was a for a vacation of a 66-foot wide by 600-foot long right-of-way ("ROW") along Prince Street, between Grant and Sherman Streets and immediately west of the Downers Grove High School football field. The current ROW included a 28-foot wide street with a sidewalk on the east side and parkway trees on both sides of the street. The six parcels adjacent to the proposed vacated ROW were owned by Community High School District 99 ("District"), petitioner. The District was proposing a comprehensive redevelopment of the area to include a new athletic field, parking lots, and a portion of the Prince Street ROW to be vacated. The only item under Plan Commission review, however, was the vacation of the ROW. Per staff, associated uses for high schools were permitted uses within the R-4 zoning districts.

Existing conditions were noted on the overhead, followed by the proposed improvements, which included the following: a new parking lot on south side of the large parcel between Saratoga, Grant, Prince and Sherman Streets; a soccer field on the north side of that parcel; a new paved walkway on the converted ROW; a plaza on the south end with a new bathroom building and canopy. On the south side of the ROW a new entrance to the proposed parking lot would be installed. A gate would also be installed adjacent to Sherman Street to block off the walkway so vehicles could not drive in the area.

Mr. Popovich confirmed that all utility companies were contacted. He proceeded to explain, more specifically, the location of the utilities within the ROW.

Mr. Popovich pointed out that some revisions were made to the proposal since it was originally submitted by the petitioner, such as the original 45 foot wide easement proposed for access to the utilities was revised to 46 feet, after discussions with staff, the petitioner, and the school district. The extra foot to the west would allow the Village to have 10 feet of space between the existing water main and the western edge of the easement. Proposed revisions include the incorporation of easement stubs to provide access for the storm sewer, sanitary sewer and water main. Staff noted that the revision was now for a 46-foot wide by 600-foot long easement. The petitioner was aware that no permanent structures would be allowed within the easement area.

Continuing, it was reported that a traffic study for this project was done and it was found that the street closure would not result in a significant impact to traffic flow in the area. Most of the traffic in the area was school-related. Non-school related traffic to Ogden Avenue would typically use Saratoga Avenues since there was an existing traffic light at Ogden Avenue. Staff reviewed the traffic impact study with the Public Works department and the traffic manager agreed with the findings in regard to the proposed vacation.

Mr. Popovich discussed that the Comprehensive Plan calls for the Village to promote the continued operation and improvements to school facilities and ensure that they do not impact residential

neighborhoods and to cooperate with the school districts to maintain high quality sites and facilities. Staff believed the proposed ROW vacation complies with this recommendation. With this vacation, bus stacking would be eliminated along Prince Street between Grant and Lincoln and not impact the adjacent residential neighborhood.

Staff believed the proposal was consistent with the Village's Comprehensive Plan and Zoning Ordinance, and met the requirements of the Village's police department. However, the fire department did have concerns, and requires including a 20 foot walkway versus a 16 foot walkway; a mountable curb on the south side of the ROW between the plaza and parking area (for emergency vehicles); and a gate on the north side to include a lock box to be operable by one person.

Mr. Popovich indicated the appropriate notice was provided for this proposal. Staff received no correspondence regarding the request from the neighbors. Mr. Popovich indicated the Director of Public Works received correspondence from a neighbor regarding the design of the proposed parking lot east of Main Street. The District held an October 27, 2011 neighborhood meeting on this proposal and the results of the meeting were on the dais. There appeared no significant concerns with the vacation and the comments were primarily related to changing the parking hours on Prince Street and lifting the parking ban, which staff could address after the improvements were made.

Per the Vacation Policy, Mr. Popovich stated that consent was required by two property owners and, in this case, there was only one property owner adjacent to the proposed ROW. Mr. Popovich noted known public interests such as the location of utilities within the ROW have been addressed. Additionally, the traffic study found the proposed vacation will not negatively impact the surrounding neighborhood. Staff concurs and believed the Vacation Policy was being met. Staff, however, was recommending to waive the compensation fee, typically required.

Mr. Popovich stated staff recommended the Plan Commission forward a positive recommendation to the Village Council with the conditions listed on page 6 of staff's report. He reminded the Commission that two revisions were necessary to the original conditions: Condition No. 2 shall read, "Prior to final Village Council consideration, a Mylar copy of the Final Plat of Vacation indicating the required easements per the **revised easement sketch identifying a 46 foot wide easement** shall be prepared and submitted to the Village." Condition 3 shall read, "The Village shall waive the $153,513.00 compensation for the vacated right-of-way."

Chairman Jirik reminded the commissioners that tonight's request was for a vacation of land only.

Mr. Matejczyk confirmed with Mr. Popovich that the vacation was going to facilitate the use of the proposed parking lot. Mr. Popovich noted that there would be an entrance with the existing ROW serving on the south side as an entrance to the parking facility and continuing through to Saratoga Avenue. He identified those properties owned by the school district along Saratoga. Also, he clarified that the stubs in the revised 46 foot wide easement were indicated in the revised easement sketch, per Mrs. Rabatah's question.

Mr. Waechtler asked about waiving the compensation for the property. Mr. Popovich stated the Village Council makes the final decision about payment for rights of way per the vacation policy. He indicated staff typically makes a recommendation in terms of the value of the right-of-way so the Plan Commission and public were aware.

Chairman recalled the Plan Commission took no position on such recommendations in the past. Chairman Jirik could not recall if there was another instance where compensation was waived for a right of way.

Mr. O'Brien, also raised the fact that the Village has a fee waiver policy which allows staff to waive fees for governments and not-for-profits where no direct costs are incurred by the Village. Mr. O'Brien indicated he was not aware of any other waivers since the current right of way policy was adopted in 2003. He stated that there were no other cases where an public agency or not-for-profit applied for a vacation.

Mr. Mark McDonald, Superintendent for School District 99, 412 Bunning Drive, Downers Grove, discussed the petition in depth, noting that North High School was constructed on a small amount of land initially and the school district began purchasing properties back in the 1990s, which were the properties under discussion. The last home was purchased in July 2011. Planning for the two high school campuses began back in 2009 but no source of revenue existed until the summer of 2010. During this time he reported the Board of Education charged the school's administration to address three issues at the north campus: safety, adding or making better use of the existing space at the campus, and to create facilities on the campus to conduct more activities and athletic events on the campus. Details followed on how each of these three issues were being addressed; specifically, vacating Prince Street west of the stadium for the purpose of enlarging the campus contiguous and relocating and redefining the bus loading areas.

Continuing, Mr. McDonald stated the current homes that the school district owned would, therefore, be converted to green space and a bus drop-off and pick-up. The vacation allowed for the consolidation of spaces within the existing campus, eliminated through-traffic, and allowed for the relocation of bus drop-offs and pick-ups in the south area of the campus, which he believed was the safest location for the facility.

Mr. Byron Wyns, Wight & Company, 2500 N. Frontage Road, Darien, Illinois, engineers for the project, discussed that his offices did work closely with the school district in creating a safe design for the students and vehicular traffic. He welcomed questions.

Responding to commissioner questions, Mr. McDonald reported that the school the district owned eight homes on nine lots. Bus ridership was estimated at 500 to 600 students and those students would be boarding at the newly designed parking area. Asked whether the property on the east side of Main Street would still be utilized, Mr. McDonald stated it would, only for parking. As to those students crossing Main Street during the day, he noted they were students crossing daily for physical education classes and for football practice in the fall. In the spring, students involved in softball crossed Main Street. With the new proposal, he said those students were removed from crossing the street, except for the early morning hours, arriving at school or in the afternoon, exiting school. Students would complete their physical education courses and after-school activities without crossing a street.

Chairman Jirik opened up the meeting to public comment.

Mr. Chris Patterson, 4502 Prince Street, Downers Grove, fully supported vacating Prince Street. His concern was traffic control on Prince Street, south of Grant between Grant and Lincoln, due to

parents waiting to pick up their students while in the bus parking zone. He asked if there would be parking and traffic controls to address this issue. For this specific issue, the chairman felt that the Traffic and Parking Commission could address his concerns. Mr. O'Brien explained the appropriate steps that would take place to address such issues as the petition moved forward and as well as stating that District 99 would be educating the parents and installing appropriate signage.

Ms. Mary Plasman, 4440 Saratoga, Downers Grove, asked the commission to not approve or hold off the vacation until the parking and traffic issues were resolved. She believed the vacation would impact the area in ways not considered in the traffic report, i.e., no information about the drop-off and pick-up area with the sports buses and the waiting parents. Other concerns included the buses exiting their area and barely having enough room to turn out of the driveway and wait for the stop sign at Saratoga and Grant Streets. She believed the vacation would have a negative impact on the traffic on Saratoga. She stated the traffic report reflected times when students were basically in school. Ms. Plasman stated that Saratoga was a narrow street, since she could not back out of her driveway currently. She asked if the 600 feet length of the vacation could be shortened in order to have room for the school district to rearrange the entrance/exit of the parking lot. While she did not oppose the plan, she believed approval of the petition would negatively affect her property. Ms. Plasman indicated that her property was a rental house and the new parking lot would make the property less attractive to prospective renter. She also added that the construction traffic will be heavy and she did not want that traffic parking on Saratoga.

For the record, Mr. Waechtler, stated his understanding was that Mrs. Plasman was asking if it would be better to shorten the parking lot and relocate it eastward, to allow more room for the buses to make turns, wherein Ms. Plasman clarified it was a narrow street problem and the driveway exiting onto Saratoga was directly across from her property. She believed removing the homes already devalued her rental property because she could not command a higher rent.

In responding to the Chairman's questions, Mr. Popovich explained the review process for the parking lots, noting the proposed parking lots and improvements to the school's property was "construction by right" because public high schools are permitted uses in the R-4 district. He went on to indicate the proposed parking lot would have to comply with the Village's screening and construction standards.

Chairman Jirik asked there was anything that prohibits the development of either parking lot should the vacation not be approved. Mr. Popovich indicated the improvements could be made even if the vacation is not approved. He indicated the closure of Prince Street is the only portion of the plan that could not be completed without the vacation.

Chairman Jirik went on to confirm that could the parking lots be developed as outlined if the vacation is denied. Mr. Popovich indicated they could, noting the parking lot design that was on the overhead would be slightly modified because a vehicle would be coming off of Prince Street. Regardless of the outcome of this meeting, Mr. Popovich confirmed with the Chairman that the parking lots could be developed without the vacation.

Ms. Cindy Schram, 4442 Saratoga, Downers Grove, stated her concern was that if the petitioner was allowed its vacation, what were her rights to work with the school district. She was looking to the Village to assist the owners so the proposal worked. She supported the proposal, but stated safety concerns existed in the parking lot and the bus drivers could not see late-coming students. She

stated she had no parking at any time in front of her house since buses were loading students or vehicles were constantly parking and blocking her driveway. She wanted to work with the Village and the school district to resolve this issue, since it was the first time many of the neighbors had heard about the proposal.

Ms. Jenny Bauman, 4500 Prince Street, Downers Grove, stated she found out about this proposal about one week before she was due to close on her home. She found issues with the traffic report, noting it identified the peak times between the hours of 2:00 p.m. and 4:00 p.m. She stated the school lets out at 3:20 p.m. and Prince Street was blocked off during these times. She believed that the morning and afternoon traffic flowed well, but problems arose when students were let out of their athletic programs between 4:00 p.m. and 7:00 p.m. Parents parked on Prince Street to pick up kids and creating congestion for residents in the area. Ms. Bauman went on to indicate she did not receive support from the police department during congested times and stated that the existing rules for safety were not being enforced. She stated she attended the open house meeting and came away from that meeting with the petitioner having no clear plan for the drop-off and pick-up of the students. She believed the vacation may need to take place but there needed to be a better plan. Ms. Bauman questioned the traffic report when it said the volume of cars expected to use the area would not cause operational concerns; she stated there were operational concerns now.

Ms. Bauman explained that the school did not communicate drop-off/pick-up or other traffic patterns to the parents at any of the orientation meetings she attended. She indicated that only the on-site parking rules were explained. She supported keeping the greenscape and not removing trees.

Mr. Tom Smith, 1205 Grant Street, Downers Grove, shared the same concerns of his neighbors and he supported the vacation of Prince Street, as it was necessary. This was the first time he heard about the proposal and believed there was a lack of community involvement from the school district. He supported more study of the traffic impacts and possible modifications to the parking lot and bus pick-up area.

No further comments followed. Chairman Jirik closed public participation. Commissioners had no follow-up questions to the public.

Mr. Byron Wyns, for Wight & Company, responded by explaining that the pick-up and drop-off area was designed to accommodate the off-street pick-up area into the parking zone after the buses leave, which included a designated area and a canopy area. He confirmed, as the above neighbor had stated, that there was no formal plan in place, as he was in discussions with the school district on how to address the issue and stated he "knows that there has to be something formal put in place" which was the design that was presented. He stated there was thought put behind the plan.

While the Chairman confirmed with staff that the commission had no purview over the parking lot at this time, he asked for staff's view on a motion, if the petitioner chose to voluntarily meet with the neighbors. In response, Mr. O'Brien explained that the petitioner would be encouraged to work with the surrounding neighbors to address concerns. However, if the Plan Commission believed that the traffic concerns had not been adequately addressed by the traffic study with regard to the traffic circulation on Prince Street, the Commission could request more information and have the petitioner return to a future meeting.

The Chairman pointed out that the petition was for a vacation, but the buses have to go somewhere, which was not in the purview of this Commission.

Mr. Beggs indicated he could only view this petition supposing there was no parking lot plans, then the question was whether it was a proper request, which he was considering.

Mr. Waechtler noted he did not recall any past vacations with as many ramifications as this request. He thought the two issues were separate but inter-related. He reiterated the District held a neighborhood meeting on October 27. Mr. Waechtler acknowledged that the Commission received a list of concerns raised by the neighbors at that meeting. He questioned whether those concerns were addressed by the School District. He agreed there were unanswered questions and the vacation request was much more than a simple vacation where a garage may be involved.

Clarifying his understanding of Mr. Waechtler's comments, the Chairman understood Mr. Waechtler's comments that a response to the neighbors concerns to traffic issues should have been included to assist the Commission in its review. Mr. Waechtler concurred, stating along with some more related items. Chairman Jirik stated it was "the impact of a vacation on an existing activity, which was more than a level of service."

Superintendent Mark McDonald responded by explaining that he held a public meeting with the Board of Education back in January, 2009 and discussed the need to create such a plan, which was posted on the web site. Another meeting was held in the fall of 2009, revealing such a plan, and issues of safety were addressed. The purchase of the properties began in 2009 and the school district spoke to affected neighbors. A letter was sent to the neighbors, of which he did not see because he was not employed by the district then, inviting them to a meeting. He was not aware of a plan from the 1990's because he did not begin working in the district until 2003. As to community involvement, he reported that over 100 people were involved from the community, including booster club parents, parent club meetings at North, and public agencies. The plan was initially presented to the Board of Education in January 2011 but the board did not vote on the plan at that time. A second public meeting was held on January 31, 2011 to address issues found by the Board of Education at that time. The meetings were publicized in the Downers Grove media and have been on the district's website.

Mr. Keith Matune, member of the Board of Education for Downers Grove North and South ("BOE"), and having been a prior student at North, discussed that the BOE was charged with the safety of approximately 2,000 students at North. He stated the Master Site Program and Plan addresses that very fairly. He discussed the streets crossings he did as a student over Main Street and the buses lining up since the 1970s. If a change was not made, he stated more of the same would continue. Approximately 25% to 33% of the students ride the bus. With the way the buses were currently lined up, he said a safety hazard existed, along with other issues, and addressing it was a better and safe move. He reiterated the ROW vacation was primarily about safety.

Mr. Marty Schack, director of physical plant and operations for the district, said he was employed since 1983 with the district and has been trying to address and correct the issues at North High School over the years. He viewed the traffic problems as vehicular and pedestrian and one of the reasons for the vacation was that students would not have to cross Prince Street if vacated. He did not want to duplicate the problem on Main Street. Placing the buses in the bus parking lot allowed better control of the students to their buses. He cited the positives occurring at South High School

with a similar bus parking layout. Secondly, as to public input, he reported the open house two weeks ago was encouraged by Village staff and a list of neighbor concerns were heard, a copy of which the Commissioners had. He stated the district was considering those concerns as it goes through further design and review with the Village. No new concerns were raised and he wanted to ensure those attending tonight's meeting that the district was listening in order to work with the designer and traffic engineer. Lastly, he noted the District's traffic engineer was present and believed the study was comprehensive.

Mr. Charles Teuer, traffic engineer with Regina Webster & Associates, responded by explaining how the scope of study was developed and approved by Village staff. The Village agreed with the times that would be observed for traffic volumes and levels of service.

Chairman Jirik, again, reiterated that it in his mind there was a single issue that the Commission needed to think about, which was -- are there traffic effects or other effects that would result from the closing of a street that the commission believed were significant enough that more information was necessary or not. He agreed this was a unique situation and the street was also unique. He opened up the meeting to questions for the petitioner on matters of traffic.

Per Mr. Hose's question about the costs and delays to the school district if the Commission were to ask for more information, Mr. Teuer could not respond to the question. Dialog followed that it depended upon if there was a relevancy and what it was to study further.

Mr. Waechtler asked if Mr. Teuer and others involved in the petition, had time to address the neighbors' concerns, wherein Mr. Teuer stated he received the list on the dais and was in the process of updating the traffic study accordingly.

Chairman Jirik asked to what extent the items on the list were specifically related to the vacation wherein Mr. Byron Wyns, with Wight & Company, responded that the comments Mr. Teuer was addressing were staff comments regarding the traffic study and were not directly related to all the issues on the list from the October 27th meeting. He clarified there were two different sets of comments and Mr. Teuer had the staff comments that were accumulated when the October 27 meeting was held. Many of those traffic issues were existing and not based on the new parking design. He emphasized he was working to address staff comments.

Asked if there were traffic issues directly related to the vacation, no comments were heard. No further closing statements were made by the petitioner.

The Chairman spelled out the four options available to the Commissioners on how to proceed with a motion. Mr. O'Brien reminded the Commissioners and public that the Village's planners, traffic manager and police department reviewed the traffic study. Staff asked the petitioner to study the surrounding street network to see if the closure of Prince Street would impact the traffic and pedestrian patterns in the neighborhood. He explained that overall the level of services for surrounding intersections remained with the closure of Prince Street. Mr. O'Brien indicated staff's finding, based on the applicant's traffic study, is that there would be no significant impacts to the traffic patterns if Prince Street is closed. However, he reminded the Commission that staff has some operational and site planning comments regarding the layout of the parking lot. These comments were forwarded to the petitioner and will have to be addressed in the petitioner's final site plan.

Mrs. Rabatah asked if the traffic flow between the hours of 4:00 p.m. and 7:00 p.m. would not be changed with the closure. Mr. O'Brien believed the level of service in the neighborhood would remain the same and some of those concerns raised by the neighbors were being addressed by getting the buses off of Prince Street and into the parking lots.

Chairman Jirik queried staff whether staff was recommending that the district prepare an operational plan, including regular communication with the neighbors, regular surveillance, and education of sports families on how to pick up their students. Mr. Popovich responded that the Village's traffic manager was advocating better education of the parents and students for the pickup and drop-off area. The traffic manager also believed traffic will be improved because specific parking spaces for the buses were being created, especially for organized sporting events. Mr. O'Brien called attention to the fact that a plan would be put in place by the District based on their traffic engineer's recommendation. He indicated once the parking lots were built, the Village would partner with the School District fine-tune on-street traffic regulations as has been occurring.

The Chairman believed that the plan would create a forum and if the neighbors were upset they could request to view the plan, and if parts of it were not working a document existed which could be worked upon to improve the situation. As part of the vacation, Mr. O'Brien was not sure if the Commission could require an operational plan. Mr. O'Brien also stated that staff had already asked the petitioner information regarding their use of the proposed parking lots.

Mr. Hose asked staff what its level of comfort was for the period of time outside of the two times already studied, wherein Mr. O'Brien explained that the two time periods were the peak hours typically experienced by schools. These time periods would be what one would expect to see in a traffic study. He indicated that during the afternoon peak, one would expect to see a greater drop in service at the intersections of the cross streets with Ogden Avenue as school let out. Saratoga was a street that he felt would experience a bit more traffic in the PM peak due to the signal at Ogden. Mr. O'Brien noted that Prince provides some relief to the road network.

Mr. O'Brien went on to explain that the evening peak for the road network is likely between the hours of 5-7 p.m. He indicated that although the traffic study did not specifically address these hours, it is likely that the road network would function similarly to the peaks identified for the school in the traffic study. Mr. O'Brien indicated these evening peaks would likely not be affected by the closure of Prince Street given its function in the street network. He indicated the traffic that would go to Prince would likely shift to another street in the grid.

Mr. Waechtler suggested clarifying Conditions No. 3 to adding a Condition No. 7 stating "District 99 will prepare an on-going operational plan for neighbors, traffic and parking objections." He asked for Commissioners' input on new Condition No. 7. The Chairman suggested, after hearing what staff reported above, to add the following parenthetical: "(This motion recognizes testimony by staff, noting that an operation plan that addresses traffic issues associated with changes that were brought about due to this vacation, will be prepared separately by the petitioner as part of the staff's permitting process.)"

The Chairman asked for other comments. There were none. As such, Chairman Jirik entertained a motion.

WITH RESPECT TO FILE PC 38-11, MR. COZZO MADE A MOTION THAT THE PLAN COMMISSION FORWARD A POSITIVE RECOMMENDATION TO THE VILLAGE COUNCIL APPROVING THE PRINCE STREET RIGHT-OF-WAY VACATION SUBJECT TO STAFF'S CONDITIONS LISTED BELOW:

1. **THE VACATION SHALL SUBSTANTIALLY CONFORM TO THE STAFF REPORT DATED NOVEMBER 7, 2011.**
2. **PRIOR TO FINAL VILLAGE COUNCIL CONSIDERATION, A MYLAR COPY OF THE FINAL PLAT OF VACATION INDICATING THE REQUIRED EASEMENTS PER THE "REVISED EASEMENT SKETCH IDENTIFYING A 46 FT. WIDE EASEMENT" SHALL BE PREPARED AND SUBMITTED TO THE VILLAGE.**
3. **A MOUNTABLE CURB SHALL BE PROVIDED ONTO THE PLAZA AT THE SOUTH END OF THE VACATED RIGHT-OF-WAY.**
4. **THE 16-FOOT WIDE WALKWAY SHALL BE REDESIGNED TO PROVIDE A 20-FOOT WIDTH THAT CAN ACCOMMODATE AN 80,000 POUND EMERGENCY VEHICLE.**
5. **THE NORTHERN GATE SHALL INCLUDE A LOCKBOX AND BE DESIGNED SUCH THAT A SINGLE INDIVIDUAL CAN OPERATE THE GATE.**
6. **THIS MOTION RECOGNIZES TESTIMONY BY STAFF, NOTING THAT AN OPERATION PLAN THAT ADDRESSES TRAFFIC ISSUES ASSOCIATED WITH CHANGES THAT WERE BROUGHT ABOUT DUE TO THIS VACATION, WILL BE PREPARED SEPARATELY BY THE PETITIONER AS PART OF THE STAFF'S PERMITTING PROCESS.**

SECONDED BY MR. HOSE.

Mr. Beggs stated he was not sure of staff's authority to make requirements under the permitting process. Mr. O'Brien responded that as part of the site plan approval, the Village will be granting ROW permits and access permits which will be an opportunity for the site plan issues to be addressed. He stated the Commission could strengthen the requirement if it chose, but again, reminded the Commission it was staff's intent to require the petitioner to answer some of the questions surrounding the site plan. Mr. Beggs reminded the Chairman that the Commission was dealing with a separate governmental body and not with a commercial establishment subject to the jurisdiction of the Village. In response, Mr. O'Brien stated that the district does have to comply with the Village's Zoning Ordinance, ROW permits and stormwater requirements.

The Chairman pointed out that if the Commission requires the operational plan as part of the vacation, the petitioner has no option but to prepare the plan.

However, Mr. Beggs disagreed. He stated the vacation depended upon whether the Commission was creating any hazard to the neighborhood by closing the street. Personally, he did not believe the Commission was creating a hazard and he did not hear of any hazards being raised at this time.

Mr. Waechtler commended District 99 for all its work over the years and was assured that the district would continue to work with the neighbors to resolve the issues. The Chairman concurred.

ROLL CALL:

AYE: MR. COZZO, MR. HOSE, MR. BEGGS, MR. MATEJCZYK, MRS. RABATAH, MR. WAECHTLER, CHAIRMAN JIRIK
NAY: NONE

MOTON CARRIED. VOTE: 7-0

Staff referenced the meeting dates for 2012 on the dais. Mr. O'Brien stated one agenda item will be on the December agenda. Copies of the Comprehensive Plan were also available after the meeting. Copies were also on-line and at the library.

Mr. Beggs added that the discussion on the last petition was very beneficial.

THE MEETING WAS ADJOURNED AT 10:05 P.M. ON MOTION BY MR. WAECHTLER, SECONDED BY MRS. RABATAH. MOTION CARRIED UNANIMOUSLY BY VOICE VOTE OF 7-0.

/s/ Celeste K. Weilandt
Celeste K. Weilandt
(As transcribed by MP-3 audio)

Master Site Plan Phase 2 Open House **10/27/11**
Neighborhood Comments

Landscaping

- Save as many trees as possible.
- More green space.
- Adequate landscaping along Grant (West side of school) to block noise/view.
- Additional line of trees between bus parking and soccer field.
- Highland parkway would like more green space & trees.

Parent Pick-up & Drop off areas

- Educate parents & students of new traffic flow and pick up area including after school hours.
- Clear signage & direction needs to be provided for new bus staging areas.

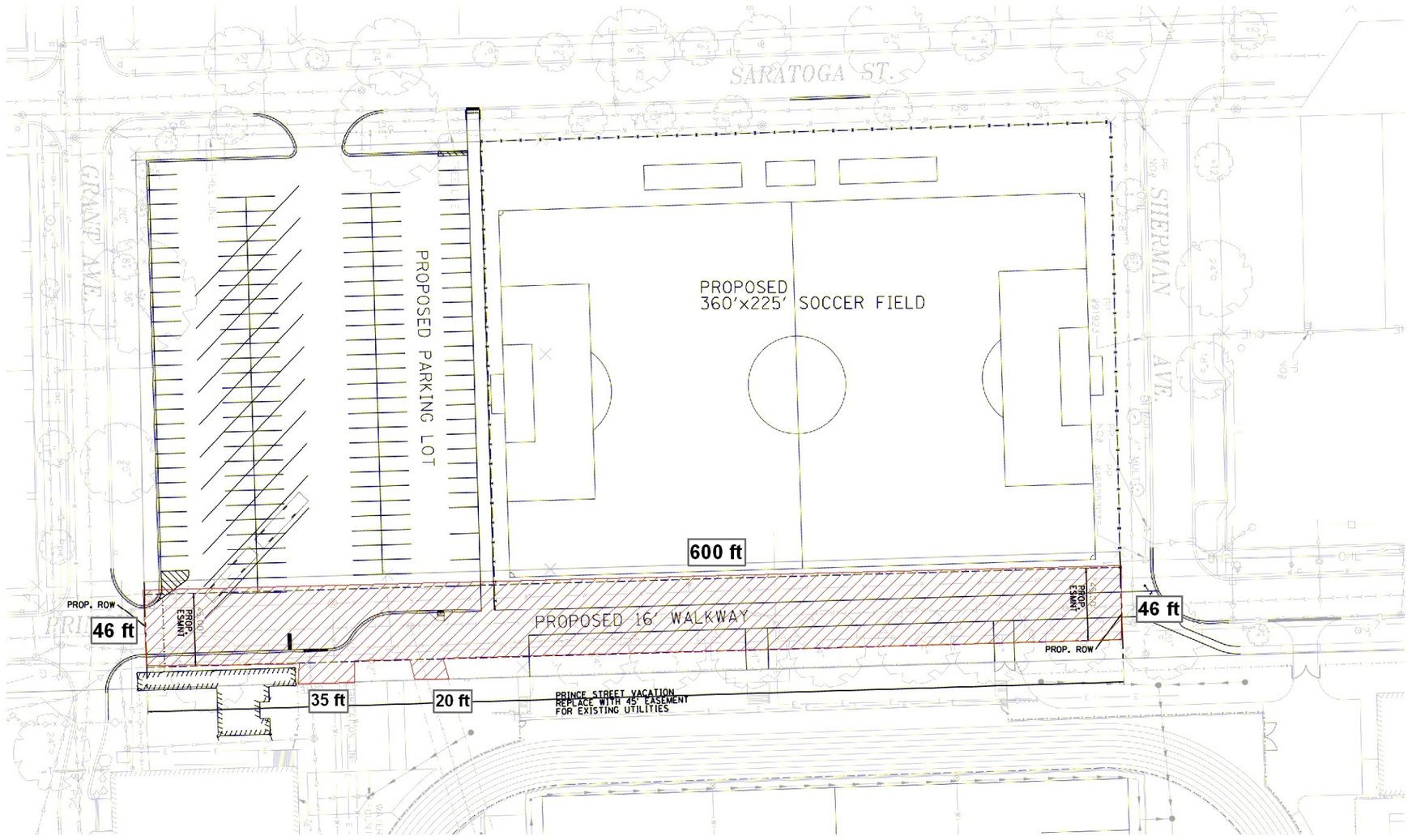
Prince Street closure

- Restricted parking hours as opposed to no parking anytime (similar to Lincoln St).
- Parking ban on Prince to be lifted at least on weekends.

Safety Concerns

- Review of a 4-way stop sign at Grant & Highland – to alleviate congestion & better pedestrian crossing with increased number of cars.
- Grant & Highland stop sign NE corner view is obstructed by large pine tree.
- Residential homes on Highland have obstructed view to North when backing out of driveways due to large pine tree.
- Highland parking lot entrance location directly across from residential driveway is dangerous.
- Stop sign at Highland & Lincoln to alleviate speeding from Grant to Chicago Ave.
- Traffic at Grant & Prince currently not being enforced. Safety needs to be addressed.
- One way on Grant & Prince (one block West & South of school) to improve traffic.
- Widen Grant & Sherman to include turn lanes for flow onto Main Street.
- Study traffic jam at the 4 way stop at Saratoga & Grant.
- Move driveway across from 4440 Saratoga further North to avoid being directly across residential driveway for safety reasons.

PROPOSED 46-FOOT WIDE EASEMENT



Wight & Company
wightco.com
2500 North Frontage Road
Darien, IL 60561
P 630.969.7000
F 630.969.7979

REV DESCRIPTION DATE

NORTH HIGH SCHOOL
MSP 2011 TIER 1
PHASE 2

4436 Main St.
Downers Grove, IL

GEOMETRIC PLAN
WEST

Project Number:
01-5274-06
Drawn By:
KMB
Sheet:

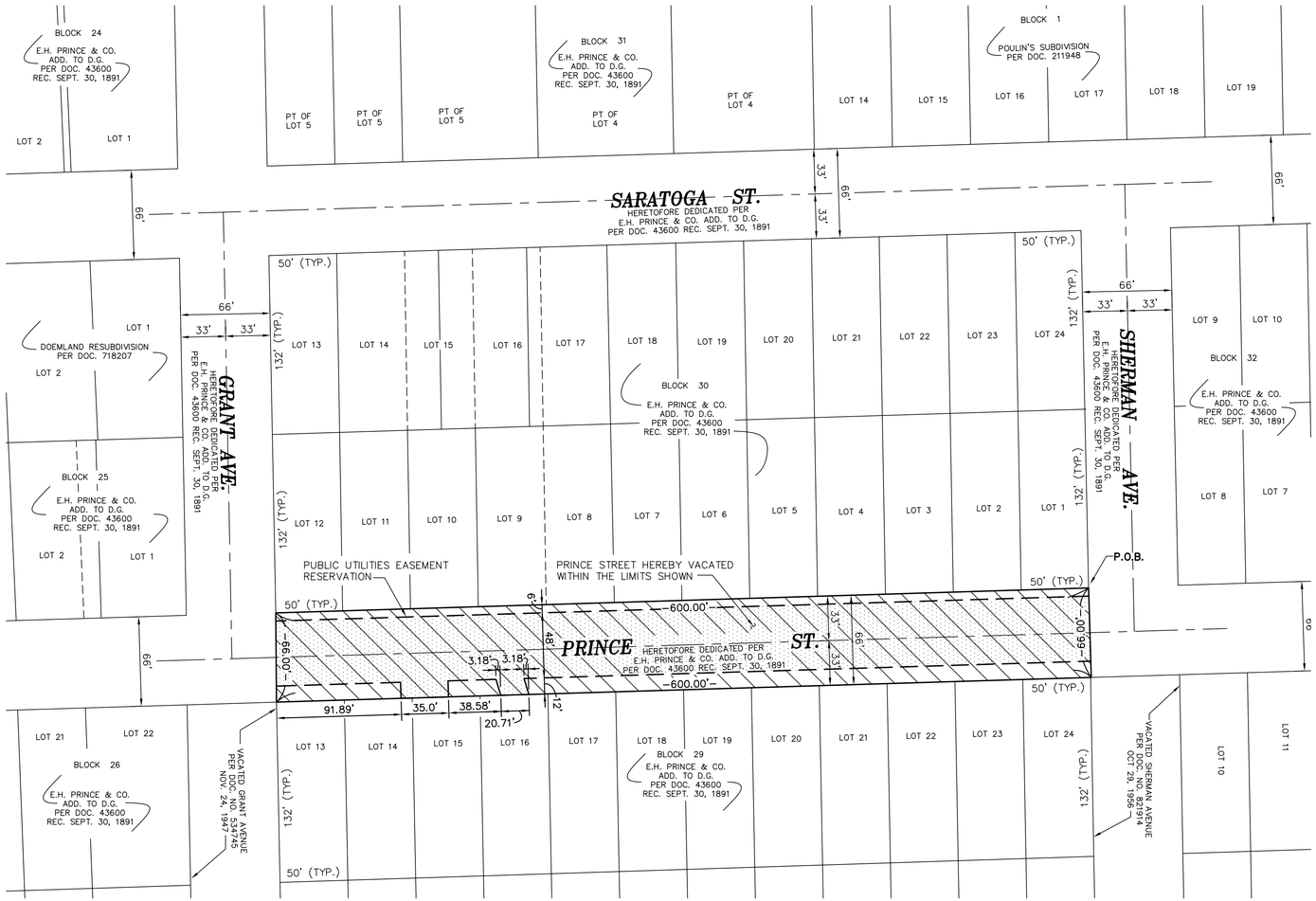
C4.2

10/4/2011 12:14:15 PM C4.2 GEO WEST S:\Darien\Downers Grove SD99\01-5274-05 North and South High School Tier 1\DWG-NORTH-PHASE 2\CD\C5.0 GEO WEST-VOID-Village-KMB.dgn

PLAT OF STREET VACATION AND EASEMENT RESERVATION OF PRINCE STREET VACATED RIGHT-OF-WAY

OF

PART OF THE SOUTHWEST QUARTER OF SECTION 5, TOWNSHIP 38 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN IN DUPAGE COUNTY, ILLINOIS



LINE LEGEND

- PROPERTY LINE
- CENTER LINE
- STREET VACATION BOUNDARY
- EASEMENT RESERVATION LINE
- RIGHT-OF-WAY VACATION AREA
- EASEMENT RESERVATION AREA

0 25 50 100

SCALE: 1"=50'

OWNER'S CERTIFICATE

_____ INDIVIDUALS (OR CORPORATION), HEREBY CERTIFY THAT THEY (OR IT) ARE THE OWNERS (OR OWNER) OF THE ABOVE DESCRIBED PROPERTY AND THEY (OR IT) HAVE CAUSED THE SAME TO BE SURVEYED AS SHOWN ON THE PLAT HEREON DRAWN.

GIVEN THIS _____ DAY OF _____, A.D., 20___

_____

OWNER'S SIGNATURE

NOTARY'S CERTIFICATE

STATE OF ILLINOIS }
COUNTY OF DUPAGE } SS

I, _____, A NOTARY PUBLIC, IN AND FOR SAID COUNTY IN THE
PRINT NAME
STATE AFORESAID, DO HEREBY CERTIFY THAT _____
PRINT NAME

PERSONALLY KNOWN TO ME TO BE THE SAME PERSON WHOSE NAME(S) IS/ARE) SUBSCRIBED TO THE FOREGOING INSTRUMENT AS SUCH OWNER(S) OR REPRESENTATIVE(S) OF THE OWNER APPEARED BEFORE ME THIS DAY IN PERSON AND ACKNOWLEDGED THAT HE(SHE) SIGNED AND DELIVERED THE ANNEXED PLAT AS HIS(HER) OWN FREE AND VOLUNTARY ACT FOR THE USES AND PURPOSES THEREIN SET FORTH.

GIVEN UNDER MY HAND AND SEAL

THIS _____ DAY OF _____, A.D., 20 ____

_____

NOTARY SIGNATURE

VILLAGE COUNCIL CERTIFICATE

APPROVED THIS _____ DAY OF _____ A.D. 20___ BY THE COUNCIL OF THE VILLAGE OF DOWNERS GROVE.

_____

MAYOR

_____

VILLAGE CLERK

COUNTY RECORDER CERTIFICATE

THIS PLAT WAS FILED FOR RECORD IN THE RECORDER'S OFFICE OF DUPAGE COUNTY, ILLINOIS,

ON THE _____ DAY OF _____ A.D. 20___ AT _____ O'CLOCK ___M.

AS DOCUMENT NUMBER _____

_____

RECORDER OF DEEDS

EASEMENT RESERVATION PROVISIONS

AN EASEMENT IS HEREBY RESERVED FOR AND GRANTED TO THE VILLAGE OF DOWNERS GROVE, COUNTY OF DUPAGE, AND TO UTILITY COMPANIES OPERATING UNDER FRANCHISE FROM THE SAID VILLAGE LIMITED TO AT&T, NICOR, THE DOWNERS GROVE SANITARY DISTRICT AND THEIR RESPECTIVE SUCCESSORS AND ASSIGNS JOINTLY AND SEVERALLY, OVER ALL AREAS MARKED "PUBLIC UTILITIES EASEMENT RESERVATION" ON THE PLAT OF VACATION OF THE VACATED STREET RIGHT-OF-WAY AS DESCRIBED HEREIN FOR THE PERPETUAL RIGHT, PRIVILEGE AND AUTHORITY TO CONSTRUCT, RECONSTRUCT, REPAIR, INSPECT, MAINTAIN, AND OPERATE VARIOUS UTILITY TRANSMISSION AND DISTRIBUTION SYSTEMS AND COMMUNITY ANTENNA TELEVISION SYSTEMS AND ALL NECESSARY APPLIANCES AND OTHER STRUCTURES AND APPURTENANCES AS MAY BE DEEMED NECESSARY BY SAID VILLAGE AND FOR ANY AND ALL MUNICIPAL PURPOSES, OVER, UPON, ALONG, UNDER AND THROUGH SAID INDICATED EASEMENTS, TOGETHER WITH THE RIGHT OF ACCESS ACROSS THE PROPERTY TO DO ANY OF THE ABOVE WORK. THE RIGHT IS ALSO GRANTED TO CUT DOWN, TRIM OR REMOVE ANY TREES, SHRUBS, OR OTHER PLANTS THAT INTERFERE WITH THE OPERATION OF THE UTILITIES. NO PERMANENT BUILDINGS OR STRUCTURES SHALL BE PLACED ON SAID EASEMENTS, BUT SAME MAY BE USED FOR GARDENS, SHRUBS, LANDSCAPING, DRIVEWAYS, FENCES ("IMPROVEMENTS") AND OTHER PURPOSES THAT DO NOT THEN OR LATER INTERFERE WITH THE AFORESAID USES AND RIGHTS. ANY INSTALLATIONS OF IMPROVEMENTS PLACED IN THE EASEMENT SHALL BE AT THE PROPERTY OWNER?S SOLE EXPENSE AND THE VILLAGE SHALL NOT BE RESPONSIBLE FOR REPAIRING, MAINTAINING OR REPLACING ANY IMPROVEMENTS. THE PROPERTY OWNERS SHALL INDEMNIFY AND HOLD HARMLESS THE VILLAGE, ITS AGENTS, OFFICERS AND EMPLOYEES AGAINST ALL INJURIES, DEATHS, LOSSES, DAMAGES, CLAIMS, SUITS, JUDGMENTS, COSTS AND EXPENSES WHICH MAY ARISE DIRECTLY OR INDIRECTLY FROM THE INSTALLATION OF ANY AND IMPROVEMENTS IN THE EASEMENT AREA. THE VILLAGE SHALL NOT BE RESPONSIBLE OR LIABLE FOR ANY DAMAGE INCURRED TO THE IMPROVEMENTS DURING OR AS A RESULT OF ANY REPAIR, MAINTENANCE, OPERATION, USE OR INSTALLATION OF EQUIPMENT OR FACILITIES WITHIN THE EASEMENT AREA. ALL INSTALLATIONS OF IMPROVEMENTS SHALL BE SUBJECT TO THE ORDINANCES OF THE VILLAGE OF DOWNERS GROVE. EASEMENTS ARE HEREBY RESERVED FOR AND GRANTED TO THE VILLAGE OF DOWNERS GROVE AND OTHER GOVERNMENTAL AUTHORITIES HAVING JURISDICTION OF THE LAND OVER THE ENTIRE EASEMENT AREA FOR INGRESS, EGRESS AND THE PERFORMANCE OF ANY AND ALL MUNICIPAL AND OTHER GOVERNMENTAL SERVICES.

PRINCE STREET VACATION LEGAL DESCRIPTION

THAT PART OF THE SOUTHWEST QUARTER OF SECTION 5, TOWNSHIP 38 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS:

THAT PART OF PRINCE STREET AS HERETOFORE DEDICATED IN E.H. PRINCE AND COMPANY'S ADDITION TO DOWNERS GROVE ACCORDING TO THE PLAT THEREOF RECORDED SEPTEMBER 30, 1891 AS DOCUMENT NUMBER 43600 DESCRIBED AS BEGINNING AT THE NORTHEAST CORNER OF LOT 1 IN BLOCK 30 IN SAID E.H. PRINCE AND COMPANY'S ADDITION; THENCE ALONG THE EASTERLY EXTENSION OF THE NORTH LINE OF SAID LOT 1, A DISTANCE OF 66 FEET TO THE NORTHWEST CORNER OF LOT 24 IN BLOCK 29 IN SAID E.H. PRINCE AND COMPANY'S ADDITION; THENCE SOUTH ALONG THE WEST LINE OF SAID BLOCK 29, A DISTANCE OF 600 FEET TO THE SOUTHWEST CORNER OF LOT 13 IN SAID BLOCK 29; THENCE ALONG THE WESTERLY EXTENSION OF THE SOUTH LINE OF SAID LOT 13, A DISTANCE OF 66 FEET TO THE SOUTHEAST CORNER OF LOT 12 IN SAID BLOCK 30; THENCE NORTH ALONG THE EAST LINE OF SAID BLOCK 30, A DISTANCE OF 600 FEET TO THE POINT OF BEGINNING, IN DUPAGE COUNTY, ILLINOIS.

SURVEYOR'S CERTIFICATE

STATE OF ILLINOIS)
COUNTY OF DUPAGE) SS

I, CHARLES A. HULSE, AN ILLINOIS LICENSED PROFESSIONAL LAND SURVEYOR HEREBY CERTIFY THAT THE ANNEXED PLAT HAS BEEN PREPARED FROM FIELD SURVEYS AND EXISTING PLATS AND RECORDS FOR THE PURPOSE OF VACATING STREET RIGHT-OF-WAY AND GRANTING AN EASEMENT RESERVATION.

THIS PLAT HAS BEEN PREPARED BY ROAKE AND ASSOCIATES, INC., ILLINOIS LICENSED PROFESSIONAL DESIGN FIRM NO. 807, LICENSE EXPIRES APRIL 30, 2013, UNDER MY PERSONAL DIRECTION FOR THE EXCLUSIVE USE OF THE CLIENT NOTED HEREON. THIS PROFESSIONAL SERVICE CONFORMS TO THE CURRENT ILLINOIS MINIMUM STANDARDS FOR A BOUNDARY SURVEY.

GIVEN UNDER MY HAND AND SEAL THIS _____ DAY OF

_____, A.D., 20___

CHARLES A. HULSE 2955 PROFESSIONAL LAND SURVEYOR STATE OF ILLINOIS

_____

ILLINOIS LICENSED PROFESSIONAL LAND SURVEYOR NO. 2955
LICENSE VALID THROUGH NOVEMBER 30, 2012
(NOT VALID WITHOUT ORIGINAL SIGNATURE)

G:\7045\005\7045VAC.dwg, PLAT OF VACATION, 11/18/2011 2:26:56 PM, chutch

ROAKE AND ASSOCIATES, INC.
CONSULTING ENGINEERS • LAND SURVEYORS • PLANNERS
1684 QUINCY AVENUE, SUITE 100A • NAPERVILLE, ILLINOIS 60540
TEL (630) 355-3232 • FAX (630) 355-3267

PREPARED FOR:
COMMUNITY HIGH SCHOOL DISTRICT 99
ADMINISTRATIVE SERVICE CENTER
6301 SPRINGSIDE AVENUE
DOWNERS GROVE, IL 60516
PH. (630) 795-7100 FX. (630) 795-7199

REVISIONS

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION

PRINCE STREET VACATED RIGHT-OF-WAY

PLAT OF STREET VACATION AND EASEMENT RESERVATION

DRN./CKD. BY:	PRS/CAH	FILE:	7045VAC	FLD. BK./PG.:	236/1
SCALE:	1"=50'	DATE:	11/14/11	JOB NO.:	704.005

SHEET NO. 1 OF 1

CIVIL ENGINEERING CONSULTANTS
RWA
Regina Webster & Associates, Inc.

8619 W. Bryn Mawr Avenue, Suite 602 * Chicago Illinois 60631
773 283 2600 * FAX 773 283 2602
www.RWAengineers.com

Memorandum

From: Charles H. Teuer, PE, LEED Green Associate Date: November 30, 2011

To: Community High School District 99

Subject: Proposed Site Improvements at North High School Traffic Analysis - Addendum

INTRODUCTION

This memorandum serves as an addendum to the Traffic Impact Study (TIS) completed for the proposed improvements at North High School. The purpose of this addendum is to establish the existing traffic patterns during the evening period on the west side of the school in the vicinity of the proposed vacation of Prince Street and evaluate the ability of the proposed plan to accommodate this traffic in the future.

Traffic Volumes

RWA collected traffic volumes between 4:00 PM and 7:00 PM on Tuesday November 29, 2011 at the following four intersections:

- Grant Street and Saratoga Avenue
- Grant Street and Prince Street
- Sherman Street and Saratoga Avenue
- Sherman Street and Prince Street

The peak hour of traffic within this time period was found to occur from 5:30 PM to 6:30 PM, considered the Evening Peak Hour for the purposes of this memorandum. The approach volumes for the Evening Peak Hour at each of the four intersections are tabulated below. The complete data is included as an Appendix to this memorandum.

Table 1 – Evening Existing Peak Hour Traffic Volumes (5:30 PM to 6:30 PM)

Intersection	Southbound	Westbound	Northbound	Eastbound	Total
Grant Street and Saratoga Avenue	156	56	99	20	331
Grant Street and Prince Street	52	7	117	37	213
Sherman Street and Saratoga Avenue	142	28	119	--	289
Sherman Street and Prince Street	56	--	55	4	115
				Grand Total	**948**

For comparison, the Morning (7:30 AM to 8:30 AM) and Afternoon Peak Hour volumes (3:00 PM to 4:00 PM) from the TIS are tabulated below.

Table 2 – Morning Existing Peak Hour Traffic Volumes (7:30 AM to 8:30 AM)

Intersection	Southbound	Westbound	Northbound	Eastbound	Total
Grant Street and Saratoga Avenue	109	81	230	63	483
Grant Street and Prince Street	32	--	89	40	161
Sherman Street and Saratoga Avenue	115	42	193	--	350
Sherman Street and Prince Street	58	--	61	4	123
				Grand Total	**1,117**

Table 3 – Afternoon Existing Peak Hour Traffic Volumes (3:00 PM to 4:00 PM)

Intersection	Southbound	Westbound	Northbound	Eastbound	Total
Grant Street and Saratoga Avenue	196	16	131	45	388
Grant Street and Prince Street	22	--	31	1	54
Sherman Street and Saratoga Avenue	143	35	184	--	362
Sherman Street and Prince Street	56	--	28	10	94
				Grand Total	**898**

Comparing the total volumes for the four intersections between the above tables, it is noted that the traffic volumes overall during the Evening Peak Hour are about 170 less than the Morning Peak Hour and 50 higher than the Afternoon Peak Hour. These differences do not equate to numbers of cars as one car may pass through more than one intersection and be counted twice as a result, but it is an indication that the Evening Peak Hour experiences about 18% less activity than the Morning Peak Hour and 6% more activity than the Afternoon Peak Hour. The capacity analysis conducted as part of the TIS for these four intersections found that the intersections operate with minimal delay (Level of Service A) during both the Morning and Afternoon Peak Hours.

Field Observations

In addition to the traffic volume data collected, RWA made observations of the traffic operations. Following is a list of observations made:

- The majority of traffic on Prince Street was related to student pick-up/drop-off or access to/from the student parking lot.
- Parents stopped at the curb in signed No Parking/Standing zones on Prince and Grant Streets to wait for students. This had the effect of briefly limiting the movement of through and turning traffic and was observed to result in queues of one or two vehicles at a time.
- Some drivers were observed to conduct U-Turn and backing maneuvers within the intersection of Prince and Grant Streets to change direction after making a pick-up or drop-off.
- No more than five vehicles were observed to be stopped illegally on Prince or Grants Streets at a time.
- Some parents were observed to circle the block waiting for students rather than stopping illegally.
- In general, queuing and delays at the intersection of Prince and Grant Streets were observed to be minimal, even during peak student pick-up times.

Evaluation of Proposed Plan

As described in the TIS, Prince Street is proposed to be vacated between Grant and Sherman Streets with the north leg of the Prince Street and Grant Street intersection to be a driveway to a new parking lot. The parking lot is expected to be used for school bus boarding and alighting and faculty parking during the day and to be available for event and other parking needs in the evenings and weekends.

As part of the analysis conducted in the TIS, existing traffic was redistributed on the roadway network to account for the closing of Prince Street. The analysis found that the four intersections discussed in this memorandum would continue to operate at LOS A in both the Morning and Afternoon Peak Hours, as they do currently. Given that the total Evening Peak Hour traffic volumes for these four intersections were found to fall between existing Morning and Afternoon Peak Hour volumes, it was concluded that the Evening Peak Hour traffic will also be accommodated by the proposed plan.

Field observations indicated that traffic operations in the study area, especially near the intersection of Prince and Grant Streets, was complicated by student pick-up and drop-off activity on both Prince Street and Grant Street primarily due to drivers waiting within signed No Parking/Standing zones. This complication was not observed to result in significant queuing or delay for motorists but did appear to result in confusing and irregular movements by drivers. The location of the proposed parking lot north of Grant Street with access from the intersection of Grant and Prince Streets is expected to allow this evening pick-up and drop-off activity to occur within the parking lot rather than on the public street. Adjacent to the proposed parking lot, a plaza and canopy are proposed which will provide a location for students to wait to be picked up. Accommodating this activity off of the public roadways is expected to result in improved traffic operations on Grant Street and the portion of Prince Street south of Grant Street that is proposed to remain.

CONCLUSION

The assessments discussed in this memorandum resulted in the following conclusions:

- The traffic volumes observed during the Evening Peak Hour are within the range of the Morning and Afternoon Peak Hour volumes observed and used as a basis of the analysis in the TIS.
- The TIS analysis found that the four study intersection discussed herein are expected to continue to operate at LOS A following implementation of the proposed plan.
- Therefore, the proposed plan is expected to accommodate traffic well during the Evening Peak Hour as well.
- Accommodating evening pick-up and drop-off activity within the proposed parking lot is expected to further improve traffic operations on the public roadways.

Appendix

Existing Traffic Data Collection Reports

Regina Webster & Associates, Inc.
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773-283-2600 Fax: 773-283-2602
www.RWAengineers.com

Saratoga Ave & Grant St
Downers Grove, IL
4:00 - 7:00 PM
Cloudy, Dry

File Name : Saratoga Ave & Grant St 4-7PM
Site Code : 00000000
Start Date : 11/29/2011
Page No : 1

Groups Printed- Cars - SUs - MUs

	Saratoga Ave From North				Grant Ave From East				Saratoga Ave From South				Grant Ave From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
04:00 PM	8	25	1	34	0	2	1	3	0	27	4	31	1	1	5	7	75
04:15 PM	7	25	2	34	0	0	5	5	1	21	2	24	4	1	6	11	74
04:30 PM	11	37	4	52	1	4	3	8	1	17	1	19	2	0	5	7	86
04:45 PM	9	33	3	45	6	4	8	18	0	20	1	21	0	2	6	8	92
Total	35	120	10	165	7	10	17	34	2	85	8	95	7	4	22	33	327
05:00 PM	5	35	2	42	0	1	8	9	3	22	0	25	2	3	1	6	82
05:15 PM	8	26	2	36	2	3	2	7	1	29	0	30	0	1	3	4	77
05:30 PM	9	33	1	43	1	4	3	8	0	22	0	22	0	2	4	6	79
05:45 PM	6	39	8	53	2	2	9	13	3	27	1	31	0	2	1	3	100
Total	28	133	13	174	5	10	22	37	7	100	1	108	2	8	9	19	338
06:00 PM	0	27	2	29	4	3	12	19	2	22	0	24	0	3	2	5	77
06:15 PM	3	26	2	31	3	5	8	16	0	22	0	22	0	3	3	6	75
06:30 PM	1	19	1	21	0	1	6	7	3	15	0	18	1	0	4	5	51
06:45 PM	3	29	1	33	1	0	7	8	0	13	0	13	0	0	5	5	59
Total	7	101	6	114	8	9	33	50	5	72	0	77	1	6	14	21	262
Grand Total	70	354	29	453	20	29	72	121	14	257	9	280	10	18	45	73	927
Apprch %	15.5	78.1	6.4		16.5	24	59.5		5	91.8	3.2		13.7	24.7	61.6		
Total %	7.6	38.2	3.1	48.9	2.2	3.1	7.8	13.1	1.5	27.7	1	30.2	1.1	1.9	4.9	7.9	
Cars	68	353	29	450	16	29	72	117	14	257	9	280	9	18	44	71	918
% Cars	97.1	99.7	100	99.3	80	100	100	96.7	100	100	100	100	90	100	97.8	97.3	99
SUs	2	1	0	3	4	0	0	4	0	0	0	0	1	0	1	2	9
% SUs	2.9	0.3	0	0.7	20	0	0	3.3	0	0	0	0	10	0	2.2	2.7	1
MUs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% MUs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Saratoga Ave From North				Grant Ave From East				Saratoga Ave From South				Grant Ave From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	5	35	2	42	0	1	8	9	**3**	22	0	25	**2**	**3**	1	**6**	82
05:15 PM	8	26	2	36	**2**	3	2	7	1	**29**	0	30	0	1	3	4	77
05:30 PM	**9**	33	1	43	1	**4**	3	8	0	22	0	22	0	2	**4**	6	79
05:45 PM	6	**39**	**8**	**53**	2	2	**9**	**13**	3	27	**1**	**31**	0	2	1	3	**100**
Total Volume	28	133	13	174	5	10	22	37	7	100	1	108	2	8	9	19	338
% App. Total	16.1	76.4	7.5		13.5	27	59.5		6.5	92.6	0.9		10.5	42.1	47.4		
PHF	.778	.853	.406	.821	.625	.625	.611	.712	.583	.862	.250	.871	.250	.667	.563	.792	.845

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Saratoga Ave & Grant St
Downers Grove, IL
4:00 - 7:00 PM
Cloudy, Dry

File Name : Saratoga Ave & Grant St 4-7PM
Site Code : 00000000
Start Date : 11/29/2011

Groups Printed- Cars

	Saratoga Ave From North				Grant Ave From East				Saratoga Ave From South				Grant Ave From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
04:00 PM	6	25	1	32	0	2	1	3	0	27	4	31	1	1	5	7	73
04:15 PM	7	25	2	34	0	0	5	5	1	21	2	24	3	1	6	10	73
04:30 PM	11	37	4	52	1	4	3	8	1	17	1	19	2	0	5	7	86
04:45 PM	9	33	3	45	3	4	8	15	0	20	1	21	0	2	6	8	89
Total	33	120	10	163	4	10	17	31	2	85	8	95	6	4	22	32	321
05:00 PM	5	35	2	42	0	1	8	9	3	22	0	25	2	3	1	6	82
05:15 PM	8	26	2	36	1	3	2	6	1	29	0	30	0	1	3	4	76
05:30 PM	9	33	1	43	1	4	3	8	0	22	0	22	0	2	4	6	79
05:45 PM	6	39	8	53	2	2	9	13	3	27	1	31	0	2	1	3	100
Total	28	133	13	174	4	10	22	36	7	100	1	108	2	8	9	19	337
06:00 PM	0	27	2	29	4	3	12	19	2	22	0	24	0	3	2	5	77
06:15 PM	3	26	2	31	3	5	8	16	0	22	0	22	0	3	3	6	75
06:30 PM	1	19	1	21	0	1	6	7	3	15	0	18	1	0	3	4	50
06:45 PM	3	28	1	32	1	0	7	8	0	13	0	13	0	0	5	5	58
Total	7	100	6	113	8	9	33	50	5	72	0	77	1	6	13	20	260
Grand Total	68	353	29	450	16	29	72	117	14	257	9	280	9	18	44	71	918
Apprch %	15.1	78.4	6.4		13.7	24.8	61.5		5	91.8	3.2		12.7	25.4	62		
Total %	7.4	38.5	3.2	49	1.7	3.2	7.8	12.7	1.5	28	1	30.5	1	2	4.8	7.7	

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Saratoga Ave & Grant St
Downers Grove, IL
4:00 - 7:00 PM
Cloudy, Dry

File Name : Saratoga Ave & Grant St 4-7PM
Site Code : 00000000
Start Date : 11/29/2011

Groups Printed- SUs - MUs

	Saratoga Ave From North				Grant Ave From East				Saratoga Ave From South				Grant Ave From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
04:00 PM	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	3
Total	2	0	0	2	3	0	0	3	0	0	0	0	1	0	0	1	6
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
06:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2
Grand Total	2	1	0	3	4	0	0	4	0	0	0	0	1	0	1	2	9
Apprch %	66.7	33.3	0		100	0	0		0	0	0		50	0	50		
Total %	22.2	11.1	0	33.3	44.4	0	0	44.4	0	0	0	0	11.1	0	11.1	22.2	
SUs	2	1	0	3	4	0	0	4	0	0	0	0	1	0	1	2	9
% SUs	100	100	0	100	100	0	0	100	0	0	0	0	100	0	100	100	100
MUs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% MUs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Saratoga Ave & Grant St
Downers Grove, IL
4:00 - 7:00 PM
Cloudy, Dry

File Name : Saratoga Ave & Grant St Peds
Site Code : 00000000
Start Date : 11/29/2011

Groups Printed- Peds & Bikes

	Saratoga Ave Crossing North Leg			Grant Ave Crossing East Leg			Saratoga Ave Crossing South Leg			Grant Ave Crossing West Leg			
Start Time	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Int. Total
04:00 PM	0	2	2	0	0	0	0	1	1	0	0	0	3
04:15 PM	0	0	0	0	1	1	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	3	3	0	0	0	3
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	2	0	1	1	0	4	4	0	0	0	7
05:00 PM	0	0	0	0	0	0	0	6	6	0	1	1	7
05:15 PM	0	0	0	0	0	0	0	1	1	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	7	7	0	1	1	8
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	1	1	2	0	0	0	2
06:30 PM	1	0	1	0	0	0	0	0	0	0	0	0	1
06:45 PM	0	0	0	0	0	0	0	2	2	0	0	0	2
Total	1	0	1	0	0	0	1	3	4	0	0	0	5
Grand Total	1	2	3	0	1	1	1	14	15	0	1	1	20
Apprch %	33.3	66.7		0	100		6.7	93.3		0	100		
Total %	5	10	15	0	5	5	5	70	75	0	5	5	

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Prince St & Grant St
Downers Grove, IL
4:00 - 7:00 PM
Cloudy, Dry

File Name : Prince St & Grant St 4-7PM
Site Code : 00000000
Start Date : 11/29/2011
Page No : 1

Groups Printed- Cars - SUs - MUs

	Prince St From North				Grant St From East				Prince St From South				Grant St From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
04:00 PM	3	8	1	12	2	0	1	3	0	5	1	6	0	1	1	2	23
04:15 PM	1	9	0	10	0	0	0	0	0	6	3	9	0	0	4	4	23
04:30 PM	1	16	1	18	0	0	0	0	0	9	7	16	2	0	4	6	40
04:45 PM	7	8	0	15	0	1	0	1	0	14	10	24	1	0	2	3	43
Total	12	41	2	55	2	1	1	4	0	34	21	55	3	1	11	15	129
05:00 PM	2	9	2	13	0	0	1	1	1	10	8	19	4	0	5	9	42
05:15 PM	3	3	1	7	0	0	0	0	0	8	5	13	1	0	3	4	24
05:30 PM	1	6	0	7	1	0	1	2	0	7	8	15	1	0	5	6	30
05:45 PM	6	8	0	14	0	0	0	0	0	32	6	38	6	0	7	13	65
Total	12	26	3	41	1	0	2	3	1	57	27	85	12	0	20	32	161
06:00 PM	6	8	2	16	2	0	0	2	1	10	14	25	6	0	3	9	52
06:15 PM	4	10	1	15	1	2	0	3	2	21	16	39	6	0	3	9	66
06:30 PM	0	5	0	5	1	0	0	1	1	9	6	16	0	0	2	2	24
06:45 PM	0	7	0	7	0	0	1	1	0	13	7	20	2	1	0	3	31
Total	10	30	3	43	4	2	1	7	4	53	43	100	14	1	8	23	173
Grand Total	34	97	8	139	7	3	4	14	5	144	91	240	29	2	39	70	463
Apprch %	24.5	69.8	5.8		50	21.4	28.6		2.1	60	37.9		41.4	2.9	55.7		
Total %	7.3	21	1.7	30	1.5	0.6	0.9	3	1.1	31.1	19.7	51.8	6.3	0.4	8.4	15.1	
Cars	34	96	7	137	7	3	4	14	5	140	87	232	29	2	39	70	453
% Cars	100	99	87.5	98.6	100	100	100	100	100	97.2	95.6	96.7	100	100	100	100	97.8
SU	0	1	1	2	0	0	0	0	0	4	4	8	0	0	0	0	10
% SU	0	1	12.5	1.4	0	0	0	0	0	2.8	4.4	3.3	0	0	0	0	2.2
MU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% MU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Prince St From North				Grant St From East				Prince St From South				Grant St From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:30 PM																	
05:30 PM	1	6	0	7	1	0	**1**	2	0	7	8	15	1	0	5	6	30
05:45 PM	**6**	8	0	14	0	0	0	0	0	**32**	6	38	**6**	0	**7**	**13**	65
06:00 PM	6	8	**2**	**16**	**2**	0	0	2	1	10	14	25	6	0	3	9	52
06:15 PM	4	**10**	1	15	1	**2**	0	**3**	**2**	21	**16**	**39**	6	0	3	9	**66**
Total Volume	17	32	3	52	4	2	1	7	3	70	44	117	19	0	18	37	213
% App. Total	32.7	61.5	5.8		57.1	28.6	14.3		2.6	59.8	37.6		51.4	0	48.6		
PHF	.708	.800	.375	.813	.500	.250	.250	.583	.375	.547	.688	.750	.792	.000	.643	.712	.807

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Prince St & Grant St
Downers Grove, IL
4:00 - 7:00 PM
Cloudy, Dry

File Name : Prince St & Grant St 4-7PM
Site Code : 00000000
Start Date : 11/29/2011

Groups Printed- Cars

	Prince St From North				Grant St From East				Prince St From South				Grant St From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
04:00 PM	3	7	1	11	2	0	1	3	0	3	1	4	0	1	1	2	20
04:15 PM	1	9	0	10	0	0	0	0	0	6	3	9	0	0	4	4	23
04:30 PM	1	16	1	18	0	0	0	0	0	8	7	15	2	0	4	6	39
04:45 PM	7	8	0	15	0	1	0	1	0	14	7	21	1	0	2	3	40
Total	12	40	2	54	2	1	1	4	0	31	18	49	3	1	11	15	122
05:00 PM	2	9	2	13	0	0	1	1	1	10	8	19	4	0	5	9	42
05:15 PM	3	3	1	7	0	0	0	0	0	8	4	12	1	0	3	4	23
05:30 PM	1	6	0	7	1	0	1	2	0	7	8	15	1	0	5	6	30
05:45 PM	6	8	0	14	0	0	0	0	0	32	6	38	6	0	7	13	65
Total	12	26	3	41	1	0	2	3	1	57	26	84	12	0	20	32	160
06:00 PM	6	8	2	16	2	0	0	2	1	10	14	25	6	0	3	9	52
06:15 PM	4	10	0	14	1	2	0	3	2	21	16	39	6	0	3	9	65
06:30 PM	0	5	0	5	1	0	0	1	1	9	6	16	0	0	2	2	24
06:45 PM	0	7	0	7	0	0	1	1	0	12	7	19	2	1	0	3	30
Total	10	30	2	42	4	2	1	7	4	52	43	99	14	1	8	23	171
Grand Total	34	96	7	137	7	3	4	14	5	140	87	232	29	2	39	70	453
Apprch %	24.8	70.1	5.1		50	21.4	28.6		2.2	60.3	37.5		41.4	2.9	55.7		
Total %	7.5	21.2	1.5	30.2	1.5	0.7	0.9	3.1	1.1	30.9	19.2	51.2	6.4	0.4	8.6	15.5	

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Prince St & Grant St
Downers Grove, IL
4:00 - 7:00 PM
Cloudy, Dry

File Name : Prince St & Grant St 4-7PM
Site Code : 00000000
Start Date : 11/29/2011
Page No : 3

Groups Printed- SUs - MUs

	Prince St From North				Grant St From East				Prince St From South				Grant St From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
04:00 PM	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	3
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	3
Total	0	1	0	1	0	0	0	0	0	3	3	6	0	0	0	0	7
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	0	1	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Grand Total	0	1	1	2	0	0	0	0	0	4	4	8	0	0	0	0	10
Apprch %	0	50	50		0	0	0		0	50	50		0	0	0		
Total %	0	10	10	20	0	0	0	0	0	40	40	80	0	0	0	0	
SU	0	1	1	2	0	0	0	0	0	4	4	8	0	0	0	0	10
% SU	0	100	100	100	0	0	0	0	0	100	100	100	0	0	0	0	100
MU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% MU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Prince St & Grant St
Downers Grove, IL
4:00 - 7:00 PM
Cloudy, Dry

File Name : Prince St & Grant St Peds
Site Code : 00000000
Start Date : 11/29/2011
Page No : 4

Groups Printed- Peds & Bikes

	Prince St Crossing North Leg			Grant St Crossing East Leg			Prince St Crossing South Leg			Grant St Crossing West Leg			
Start Time	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Int. Total
04:00 PM	0	1	1	0	3	3	0	1	1	0	1	1	6
04:15 PM	0	0	0	1	1	2	0	2	2	0	0	0	4
04:30 PM	0	5	5	1	2	3	0	2	2	0	0	0	10
04:45 PM	0	0	0	1	10	11	0	0	0	0	1	1	12
Total	0	6	6	3	16	19	0	5	5	0	2	2	32
05:00 PM	0	0	0	0	4	4	0	3	3	0	2	2	9
05:15 PM	0	0	0	0	4	4	0	0	0	0	0	0	4
05:30 PM	0	0	0	0	1	1	0	1	1	0	0	0	2
05:45 PM	0	0	0	0	6	6	0	0	0	0	0	0	6
Total	0	0	0	0	15	15	0	4	4	0	2	2	21
06:00 PM	0	0	0	1	7	8	0	0	0	0	0	0	8
06:15 PM	0	0	0	0	10	10	1	0	1	0	0	0	11
06:30 PM	0	0	0	1	5	6	0	0	0	0	0	0	6
06:45 PM	0	0	0	0	2	2	0	0	0	0	0	0	2
Total	0	0	0	2	24	26	1	0	1	0	0	0	27
Grand Total	0	6	6	5	55	60	1	9	10	0	4	4	80
Apprch %	0	100		8.3	91.7		10	90		0	100		
Total %	0	7.5	7.5	6.2	68.8	75	1.2	11.2	12.5	0	5	5	

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Saratoga Ave & Sherman St
Downers Grove, IL
4:00 - 7:00 PM
Cloudy, Dry

File Name : Saratoga Ave & Sherman St 4-7PM
Site Code : 00000000
Start Date : 11/29/2011
Page No : 1

Groups Printed- Cars - SUs - MUs

	Saratoga Ave From North				Sherman St From East				Saratoga Ave From South				Sherman St From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
04:00 PM	0	36	0	36	4	0	2	6	1	36	0	37	0	0	0	0	79
04:15 PM	0	33	1	34	3	0	2	5	2	23	0	25	0	0	0	0	64
04:30 PM	0	39	0	39	5	0	2	7	0	28	0	28	0	0	0	0	74
04:45 PM	0	40	0	40	6	0	2	8	0	36	0	36	0	0	0	0	84
Total	0	148	1	149	18	0	8	26	3	123	0	126	0	0	0	0	301
05:00 PM	0	32	1	33	10	0	3	13	2	23	0	25	0	0	0	0	71
05:15 PM	0	37	1	38	5	0	1	6	1	37	0	38	0	0	0	0	82
05:30 PM	0	42	0	42	3	0	3	6	0	26	0	26	0	0	0	0	74
05:45 PM	0	42	1	43	4	0	8	12	1	24	0	25	0	0	0	0	80
Total	0	153	3	156	22	0	15	37	4	110	0	114	0	0	0	0	307
06:00 PM	0	28	2	30	4	0	2	6	0	36	0	36	0	0	0	0	72
06:15 PM	0	27	0	27	2	0	2	4	0	32	0	32	0	0	0	0	63
06:30 PM	0	24	2	26	2	0	1	3	0	17	0	17	0	0	0	0	46
06:45 PM	0	26	0	26	2	0	4	6	0	20	0	20	0	0	0	0	52
Total	0	105	4	109	10	0	9	19	0	105	0	105	0	0	0	0	233
Grand Total	0	406	8	414	50	0	32	82	7	338	0	345	0	0	0	0	841
Apprch %	0	98.1	1.9		61	0	39		2	98	0		0	0	0		
Total %	0	48.3	1	49.2	5.9	0	3.8	9.8	0.8	40.2	0	41	0	0	0	0	
Cars	0	403	8	411	49	0	32	81	7	333	0	340	0	0	0	0	832
% Cars	0	99.3	100	99.3	98	0	100	98.8	100	98.5	0	98.6	0	0	0	0	98.9
SUs	0	3	0	3	1	0	0	1	0	5	0	5	0	0	0	0	9
% SUs	0	0.7	0	0.7	2	0	0	1.2	0	1.5	0	1.4	0	0	0	0	1.1
MUs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% MUs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Saratoga Ave From North				Sherman St From East				Saratoga Ave From South				Sherman St From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	39	0	39	5	0	2	7	0	28	0	28	0	0	0	0	74
04:45 PM	0	**40**	0	**40**	6	0	2	8	0	36	0	36	0	0	0	0	**84**
05:00 PM	0	32	**1**	33	**10**	0	**3**	**13**	**2**	23	0	25	0	0	0	0	71
05:15 PM	0	37	1	38	5	0	1	6	1	**37**	0	**38**	0	0	0	0	82
Total Volume	0	148	2	150	26	0	8	34	3	124	0	127	0	0	0	0	311
% App. Total	0	98.7	1.3		76.5	0	23.5		2.4	97.6	0		0	0	0		
PHF	.000	.925	.500	.938	.650	.000	.667	.654	.375	.838	.000	.836	.000	.000	.000	.000	.926

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Saratoga Ave & Sherman St
Downers Grove, IL
4:00 - 7:00 PM
Cloudy, Dry

File Name : Saratoga Ave & Sherman St 4-7PM
Site Code : 00000000
Start Date : 11/29/2011

Groups Printed- Cars

	Saratoga Ave From North				Sherman St From East				Saratoga Ave From South				Sherman St From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
04:00 PM	0	34	0	34	4	0	2	6	1	36	0	37	0	0	0	0	77
04:15 PM	0	33	1	34	3	0	2	5	2	23	0	25	0	0	0	0	64
04:30 PM	0	39	0	39	5	0	2	7	0	28	0	28	0	0	0	0	74
04:45 PM	0	40	0	40	6	0	2	8	0	33	0	33	0	0	0	0	81
Total	0	146	1	147	18	0	8	26	3	120	0	123	0	0	0	0	296
05:00 PM	0	32	1	33	10	0	3	13	2	23	0	25	0	0	0	0	71
05:15 PM	0	37	1	38	5	0	1	6	1	36	0	37	0	0	0	0	81
05:30 PM	0	42	0	42	3	0	3	6	0	26	0	26	0	0	0	0	74
05:45 PM	0	42	1	43	4	0	8	12	1	24	0	25	0	0	0	0	80
Total	0	153	3	156	22	0	15	37	4	109	0	113	0	0	0	0	306
06:00 PM	0	28	2	30	4	0	2	6	0	36	0	36	0	0	0	0	72
06:15 PM	0	27	0	27	2	0	2	4	0	32	0	32	0	0	0	0	63
06:30 PM	0	24	2	26	2	0	1	3	0	16	0	16	0	0	0	0	45
06:45 PM	0	25	0	25	1	0	4	5	0	20	0	20	0	0	0	0	50
Total	0	104	4	108	9	0	9	18	0	104	0	104	0	0	0	0	230
Grand Total	0	403	8	411	49	0	32	81	7	333	0	340	0	0	0	0	832
Apprch %	0	98.1	1.9		60.5	0	39.5		2.1	97.9	0		0	0	0		
Total %	0	48.4	1	49.4	5.9	0	3.8	9.7	0.8	40	0	40.9	0	0	0	0	

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Saratoga Ave & Sherman St
Downers Grove, IL
4:00 - 7:00 PM
Cloudy, Dry

File Name : Saratoga Ave & Sherman St 4-7PM
Site Code : 00000000
Start Date : 11/29/2011
Page No : 3

Groups Printed- SUs - MUs

	Saratoga Ave From North				Sherman St From East				Saratoga Ave From South				Sherman St From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
04:00 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3
Total	0	2	0	2	0	0	0	0	0	3	0	3	0	0	0	0	5
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
06:45 PM	0	1	0	1	1	0	0	1	0	0	0	0	0	0	0	0	2
Total	0	1	0	1	1	0	0	1	0	1	0	1	0	0	0	0	3
Grand Total	0	3	0	3	1	0	0	1	0	5	0	5	0	0	0	0	9
Apprch %	0	100	0		100	0	0		0	100	0		0	0	0		
Total %	0	33.3	0	33.3	11.1	0	0	11.1	0	55.6	0	55.6	0	0	0	0	
SUs	0	3	0	3	1	0	0	1	0	5	0	5	0	0	0	0	9
% SUs	0	100	0	100	100	0	0	100	0	100	0	100	0	0	0	0	100
MUs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% MUs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Saratoga Ave & Sherman St
Downers Grove, IL
4:00 - 7:00 PM
Cloudy, Dry

File Name : Saratoga Ave & Sherman St Peds
Site Code : 00000000
Start Date : 11/29/2011
Page No : 4

Groups Printed- Peds & Bikes

	Saratoga Ave Crossing North Leg			Sherman St Crossing East Leg			Saratoga Ave Crossing South Leg			Sherman St Crossing West Leg			
Start Time	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Int. Total
04:00 PM	0	1	1	0	0	0	0	1	1	0	1	1	3
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	1	1	0	1	1	1	0	1	3
04:45 PM	0	0	0	1	0	1	0	1	1	0	1	1	3
Total	0	1	1	1	1	2	0	3	3	1	2	3	9
05:00 PM	0	0	0	0	0	0	0	1	1	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	1	1	0	0	0	1
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	1	1	0	0	0	0	0	0	1
Total	0	0	0	0	1	1	0	0	0	0	0	0	1
Grand Total	0	1	1	1	2	3	0	4	4	1	2	3	11
Apprch %	0	100		33.3	66.7		0	100		33.3	66.7		
Total %	0	9.1	9.1	9.1	18.2	27.3	0	36.4	36.4	9.1	18.2	27.3	

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Prince St & Sherman St
Downers Grove, IL
4:00 - 7:00 PM
Cloudy, Dry

File Name : Prince St & Sherman St 4-7PM
Site Code : 00000000
Start Date : 11/29/2011
Page No : 1

Groups Printed- Cars - SUs - MUs

	Prince St From North				Sherman St From East				Prince St From South				Sherman St From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
04:00 PM	5	6	0	11	0	0	0	0	0	8	1	9	0	0	1	1	21
04:15 PM	5	9	0	14	0	0	0	0	0	7	0	7	0	0	3	3	24
04:30 PM	2	17	0	19	0	0	0	0	0	9	3	12	3	0	0	3	34
04:45 PM	3	17	0	20	0	0	0	0	0	10	2	12	0	0	0	0	32
Total	15	49	0	64	0	0	0	0	0	34	6	40	3	0	4	7	111
05:00 PM	10	10	0	20	0	0	0	0	0	9	6	15	2	0	0	2	37
05:15 PM	2	5	0	7	0	0	0	0	0	10	1	11	1	0	0	1	19
05:30 PM	6	6	0	12	0	0	0	0	0	5	0	5	0	0	0	0	17
05:45 PM	7	12	0	19	0	0	0	0	0	10	7	17	0	0	0	0	36
Total	25	33	0	58	0	0	0	0	0	34	14	48	3	0	0	3	109
06:00 PM	4	10	0	14	0	0	0	0	0	13	3	16	1	0	1	2	32
06:15 PM	0	11	0	11	0	0	0	0	0	15	2	17	0	0	2	2	30
06:30 PM	2	5	0	7	0	0	0	0	0	6	1	7	0	0	0	0	14
06:45 PM	2	6	0	8	0	0	0	0	0	6	4	10	0	0	2	2	20
Total	8	32	0	40	0	0	0	0	0	40	10	50	1	0	5	6	96
Grand Total	48	114	0	162	0	0	0	0	0	108	30	138	7	0	9	16	316
Apprch %	29.6	70.4	0		0	0	0		0	78.3	21.7		43.8	0	56.2		
Total %	15.2	36.1	0	51.3	0	0	0	0	0	34.2	9.5	43.7	2.2	0	2.8	5.1	
Cars	48	112	0	160	0	0	0	0	0	106	29	135	7	0	9	16	311
% Cars	100	98.2	0	98.8	0	0	0	0	0	98.1	96.7	97.8	100	0	100	100	98.4
SUs	0	2	0	2	0	0	0	0	0	2	1	3	0	0	0	0	5
% SUs	0	1.8	0	1.2	0	0	0	0	0	1.9	3.3	2.2	0	0	0	0	1.6
MUs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% MUs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Prince St From North				Sherman St From East				Prince St From South				Sherman St From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	5	9	0	14	0	0	0	0	0	7	0	7	0	0	**3**	**3**	24
04:30 PM	2	**17**	0	19	0	0	0	0	0	9	3	12	**3**	0	0	3	34
04:45 PM	3	17	0	**20**	0	0	0	0	0	**10**	2	12	0	0	0	0	32
05:00 PM	**10**	10	0	20	0	0	0	0	0	9	**6**	**15**	2	0	0	2	**37**
Total Volume	20	53	0	73	0	0	0	0	0	35	11	46	5	0	3	8	127
% App. Total	27.4	72.6	0		0	0	0		0	76.1	23.9		62.5	0	37.5		
PHF	.500	.779	.000	.913	.000	.000	.000	.000	.000	.875	.458	.767	.417	.000	.250	.667	.858

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Prince St & Sherman St
Downers Grove, IL
4:00 - 7:00 PM
Cloudy, Dry

File Name : Prince St & Sherman St 4-7PM
Site Code : 00000000
Start Date : 11/29/2011

Groups Printed- Cars

	Prince St From North				Sherman St From East				Prince St From South				Sherman St From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
04:00 PM	5	5	0	10	0	0	0	0	0	6	1	7	0	0	1	1	18
04:15 PM	5	9	0	14	0	0	0	0	0	7	0	7	0	0	3	3	24
04:30 PM	2	17	0	19	0	0	0	0	0	9	3	12	3	0	0	3	34
04:45 PM	3	17	0	20	0	0	0	0	0	10	2	12	0	0	0	0	32
Total	15	48	0	63	0	0	0	0	0	32	6	38	3	0	4	7	108
05:00 PM	10	10	0	20	0	0	0	0	0	9	6	15	2	0	0	2	37
05:15 PM	2	5	0	7	0	0	0	0	0	10	1	11	1	0	0	1	19
05:30 PM	6	6	0	12	0	0	0	0	0	5	0	5	0	0	0	0	17
05:45 PM	7	12	0	19	0	0	0	0	0	10	7	17	0	0	0	0	36
Total	25	33	0	58	0	0	0	0	0	34	14	48	3	0	0	3	109
06:00 PM	4	10	0	14	0	0	0	0	0	13	3	16	1	0	1	2	32
06:15 PM	0	10	0	10	0	0	0	0	0	15	2	17	0	0	2	2	29
06:30 PM	2	5	0	7	0	0	0	0	0	6	1	7	0	0	0	0	14
06:45 PM	2	6	0	8	0	0	0	0	0	6	3	9	0	0	2	2	19
Total	8	31	0	39	0	0	0	0	0	40	9	49	1	0	5	6	94
Grand Total	48	112	0	160	0	0	0	0	0	106	29	135	7	0	9	16	311
Apprch %	30	70	0		0	0	0		0	78.5	21.5		43.8	0	56.2		
Total %	15.4	36	0	51.4	0	0	0	0	0	34.1	9.3	43.4	2.3	0	2.9	5.1	

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File Name : Prince St & Sherman St 4-7PM
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Start Date : 11/29/2011

Groups Printed- SUs - MUs

	Prince St From North				Sherman St From East				Prince St From South				Sherman St From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
04:00 PM	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	3
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	3
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
Total	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	2
Grand Total	0	2	0	2	0	0	0	0	0	2	1	3	0	0	0	0	5
Apprch %	0	100	0		0	0	0		0	66.7	33.3		0	0	0		
Total %	0	40	0	40	0	0	0	0	0	40	20	60	0	0	0	0	
SUs	0	2	0	2	0	0	0	0	0	2	1	3	0	0	0	0	5
% SUs	0	100	0	100	0	0	0	0	0	100	100	100	0	0	0	0	100
MUs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% MUs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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File Name : Prince St & Sherman St Peds
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Start Date : 11/29/2011
Page No : 4

Groups Printed- Peds & Bikes

	Prince St Crossing North Leg			Sherman St Crossing East Leg			Prince St Crossing South Leg			Sherman St Crossing West Leg			
Start Time	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Int. Total
04:00 PM	0	0	0	0	4	4	0	0	0	0	0	0	4
04:15 PM	0	0	0	0	6	6	0	0	0	0	0	0	6
04:30 PM	0	0	0	0	8	8	0	1	1	0	1	1	10
04:45 PM	0	0	0	0	1	1	0	0	0	0	0	0	1
Total	0	0	0	0	19	19	0	1	1	0	1	1	21
05:00 PM	0	0	0	0	3	3	0	0	0	0	0	0	3
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	1	1	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	4	4	0	0	0	0	0	0	4
06:00 PM	0	0	0	0	2	2	0	0	0	0	0	0	2
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	1	1	0	1	1	2
Total	0	0	0	0	2	2	0	1	1	0	1	1	4
Grand Total	0	0	0	0	25	25	0	2	2	0	2	2	29
Apprch %	0	0		0	100		0	100		0	100		
Total %	0	0	0	0	86.2	86.2	0	6.9	6.9	0	6.9	6.9	