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December 12, 2012

U. S. Nuclear Regulatory Commission
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Dresden Nuclear Power Station, Units 1, 2, and 3
Facility Operating License Nos. DPR-2, (Renewed) DPR-19 and DPR-25
NRC Docket Nos. 50-010, 50-237, 50-249 and 72-37

Subject: 10 CFR 50 Appendix E Evacuation Time Estimate Analysis for Dresden Nuclear Power Station

In accordance with 10 CFR 50.4, "Written Communications," Exelon Generation Company, LLC (EGC) is submitting the evacuation time estimates (ETE) analysis for Dresden Nuclear Power Station (DNPS). This analysis is being submitted in accordance with the requirements of 10 CFR 50 Appendix E, Section IV, "Content of Emergency Plans," paragraph 4.

The attached DNPS ETE analysis was developed using the decennial census data from the U.S. Census Bureau and in accordance with the federal guidance in NUREG/CR-7002 (SAND2010-0016P), "Criteria for Development of Evacuation Time Estimate Studies," published November 2011.

There are no commitments in this letter. If you have any questions concerning this letter, please contact Dwi Murray at (630) 657-3695.

Respectfully,

A handwritten signature in black ink, appearing to read "D M Gullott", with a long horizontal line extending to the right.

David M. Gullott
Manager – Licensing
Exelon Generation Company, LLC

Attachment: 2012 Dresden Nuclear Power Station EPZ ETE Analysis

cc: Regional Administrator - NRC Region III
NRC Senior Resident Inspector – Dresden Nuclear Power Station

Attachment

2012 Dresden Nuclear Power Station EPZ ETE Analysis

Evacuation Time Estimates for Dresden Generating Station Plume Exposure Pathway Emergency Planning Zone

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Executive Summary

This report documents the Evacuation Time Estimate (ETE) study prepared by ARCADIS for the Dresden Generating Station (DGS) in Grundy County, Illinois, about 12 miles southwest of the city of Joliet. The study reflects the current definition of the Emergency Planning Zone, which is the region within a nominal 10-mile distance of DGS. The most recent previous study of evacuation time estimates for Dresden Station was performed in 2003. The present study was performed using population data from the 2010 census.

PTV VisionTM software will be used to perform evacuation modeling for different scenarios. The PTV Vision traffic simulation software package includes VISUM (macroscopic traffic simulation) and VISSIM (microscopic traffic simulation). VISUM is a comprehensive, flexible software system for transportation planning, travel demand modeling, and network data management. VISSIM is capable of performing detailed microscopic simulation of traffic and can model any type of traffic signal control and geometric configuration.

The road network used in the evacuation simulations consists of designated evacuation routes plus any additional roadways needed to accurately simulate conditions during an evacuation. Roadway capacities were determined using NAVTEQTM digital data, updated by ARCADIS based on actual road and intersection data collected in the field in 2011. Evacuees were generally assumed to proceed out of the Emergency Planning Zone (EPZ) via recommended evacuation routes and to make their way to designated reception centers after leaving the EPZ.

The EPZ for DGS includes parts of three counties in Illinois (Will, Kendall and Grundy). The resident population of the Dresden EPZ is estimated at 106,100 permanent residents. Based on housing data from the 2010 U.S. Census, there are 846 seasonal housing units in the EPZ, with an estimated 5,076 seasonal (summer) residents. The 2010 U.S. Census data at block level was used to determine population in each EPZ Sub-Area.

The transient population, which includes larger workplaces, recreational facilities, and motels, was estimated at 14,157 persons for a winter weekday and 27,110 persons for a summer weekday. The special facilities population, including assisted living, nursing homes and hospitals, was estimated at 1,415 persons for weekday scenarios. The estimated population of schools and day care centers for a winter weekday is 36,247, including students and staff. These population estimates include intrinsic double counting, as some persons in the transient and special facility populations are also included in the permanent and seasonal resident counts. Thus, evacuation times using these population figures are considered conservative.

Vehicle demand for the resident population was developed based on estimated vehicle occupancy, using data obtained from a telephone survey of EPZ residents. The vehicle occupancy factor estimated from survey responses is 1.93 persons per vehicle, which represents 1.45 vehicles per household. For the 2003 study, vehicle occupancy was 2.70 persons per vehicle (one vehicle per household).

Vehicle demand for the transient population was estimated using vehicle occupancy factors ranging from 1.0 person per vehicle for the workforce population up to 3.0 persons per vehicle for some recreational areas. Vehicle demand for the school population was based on bus occupancy of 55 students. For nursing homes, vehicle occupancy is 20 persons per bus or van for residents, and two persons per ambulance for non-ambulatory patients. For nights and weekends, all facility staff would accompany patients; during weekdays, one vehicle per person was assigned for additional staff. Total vehicle demand for all population categories ranges from 63,401 (winter weeknight) to 78,362 (summer weekday).

Vehicle demand was also assigned to account for the potential “shadow evacuation” of the population residing immediately outside the EPZ, to a distance of 15 miles. The permanent resident population within this region is 174,820. It was assumed that 20 percent of the population in this region would evacuate. The occupancy factor for EPZ residents (1.93 persons per vehicle) was applied to estimate vehicle demand for this population. Shadow evacuees residing outside the EPZ add vehicle demand of 18,116 vehicles.

Evacuation times were estimated for evacuation of the entire EPZ for winter weekday (daytime and evening), winter weekend day, summer weekday (daytime and evening), and summer weekend cases under fair weather conditions. The weekday daytime cases were also evaluated for adverse weather conditions (snow and rain, respectively, for winter and summer).

“Staged evacuation” scenarios were also evaluated. Under a staged evacuation scenario, only the population within the 2-mile zones closest to DGS would evacuate initially; evacuation of surrounding zones would be initiated after most traffic from the 2-mile zones has cleared. The purpose of analyzing staged scenarios is to assess the potential reduction in evacuation times that might be achieved for the population at greatest risk.

Simulations were also performed to assess the potential impact of population growth on predicted evacuation times. This sensitivity analysis is used to define a threshold population figure that would trigger another ETE update study.

Predicted ETEs for the general population in the Dresden EPZ are summarized by scenario and distance in Table E-1 (times for 90 percent and 100 percent of vehicles to depart, for 2-mile zones, all zones to 5 miles, and all zones to 10 miles). The pattern of evacuation times

is consistent with the differences in vehicle demand and travel time for different scenarios. The 2-mile zone involves the shortest travel distance and the fewest vehicles; 90 percent ETEs for the 2-mile zone range from 2:35 to 4:20, and 100 percent ETEs are 3:30 to 5:30. The times are longest for summer weekday and winter weekday scenarios with adverse weather.

For all zones out to 5 miles, the 90 percent ETEs are 4:55 to 6:15, and the 100 percent ETEs are 6:25 to 7:25. For the full EPZ, the 90 percent ETEs are 4:30 to 6:35, while the 100 percent ETEs are 8:45 to 10:00.

All of these times are indicative of significant delays related to traffic congestion. The large difference between 90 percent and 100 percent ETEs reflects the time required for traffic to clear for a few congested evacuation routes. The differences in ETEs are consistent with differences in vehicle demand between scenarios. Adverse weather adds up to 50 minutes for the summer weekday ETEs, and up to 80 minutes for the winter weekday ETEs.

Table E-1: Evacuation Time Estimate Summary for Dresden Station EPZ

	Summer				Winter			
	Midweek Daytime		Weekend Daytime	Evening	Midweek Daytime		Weekend Daytime	Evening
Scenario:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Weather:	Normal	Adverse	Normal	Normal	Normal	Adverse	Normal	Normal
Evacuation Area	90 Percent Evacuation Time							
2-mile Zone	2:55	3:45	2:35	2:35	3:00	4:20	2:35	2:35
5-mile Zone	4:55	5:45	5:25	5:50	4:55	6:15	5:50	5:55
10-mile EPZ	4:35	5:25	4:30	4:45	5:15	6:35	4:45	5:10
	100 Percent Evacuation Time							
2-mile Zone	4:30	5:10	3:30	3:30	4:30	5:30	3:30	3:30
5-mile Zone	6:30	7:10	6:45	7:05	6:25	7:25	7:05	7:05
10-mile EPZ	9:00	9:40	9:00	8:55	9:00	10:00	8:45	9:00

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List of Acronyms and Abbreviations

ADT	Average daily traffic
BAO	ESRI Business Analyst Online
DGS	Dresden Generating Station
EAS	Emergency Alert System
EPZ	Exposure Pathway Emergency Planning Zone
ERPA	Emergency Response Protection Area
ETE	Evacuation time estimate
GIS	Geographic information system
GPS	Global Positioning System
IEMA	Illinois Emergency Management Agency
IPRA	Illinois Parks and Recreation Association
LOS	Level-of-service
NRC	Nuclear Regulatory Commission
PAR	Protective Action Recommendation
TAR	Tone alert radios

1. Introduction

1.1 General

Evacuation time studies analyze the manner in which the population within the Plume Exposure Pathway Emergency Planning Zone (EPZ) surrounding a nuclear power plant site would evacuate during a radiological emergency. Evacuation time studies provide licensees and State and local governments with site-specific information helpful for protective action decision-making. The studies estimate the time necessary to evacuate the EPZ for a range of evacuation scenarios. Analysis of the evacuation simulation results also identifies locations where traffic management and control measures can facilitate the evacuation, and may identify unique evacuation constraints or conditions.

Estimates of the time required to evacuate from areas around nuclear power plant sites are required for all operating plants in the United States. Federal guidance has been prepared to outline the format and content of these evacuation time estimates (NUREG-0654, Rev. 1 (Nuclear Regulatory Commission (NRC), 1980), NUREG/CR-4831 (NRC, 1992) and NUREG/CR-7002 (NRC, 2011)).

Evacuation time estimate (ETE) studies were last updated for the Dresden Generating Station (DGS) Plume Exposure Pathway EPZ in 2003 (Earth Tech, 2003). The guidance presented in NUREG/CR-7002 indicates that the evacuation time estimates should be updated as local conditions change, but at least once each decade, following release of the federal census. The current update study was prompted by the issuance of revised ETE guidance (CR-7002) and the availability of population data from the 2010 census. Census data indicate that the population residing within the EPZ for DGS increased by 35,808 between 2000 and 2010, which represents a 50.9 percent population increase. (Population data are discussed further below in section 1.4.)

The evacuation time estimates have been developed using current population, local roadway network characteristics and the PTV VisionTM traffic simulation software package to perform evacuation modeling for different scenarios. PTV Vision includes the VISSIM (microscopic traffic simulation) and VISUM (macroscopic traffic simulation) models. Evacuation times have been estimated for various areas, times and weather conditions, as outlined in CR-7002. These evacuation times represent the times required for completing the following actions:

- Public notification;

- Preparation and mobilization; and
- Actual movement out of the EPZ (i.e., on-road travel time, including delays associated with vehicle queuing).

1.2 Site Location and Emergency Planning Zone (EPZ)

This report describes the analyses undertaken, and the results obtained, in a study to update the existing Evacuation Time Estimates for DGS. The emergency response plan is designed to protect the health and safety of the public in the event that an evacuation is ordered as a protective action in response to an accident at DGS.

Dresden Generating Station is located in Goose Lake Township, Grundy County, Illinois, along the south side of the Des Plaines River, about 12 miles southwest of Joliet. The site location is shown in Figure 1-1. The plume exposure pathway EPZ is the geographic area surrounding a nuclear power plant within which the NRC requires advance planning for evacuation or other short-term protective actions in the event of a radiological emergency. The Dresden Station EPZ consists of the area within an approximate 10-mile radius of Dresden Station, as shown in Figure 1-2. The EPZ includes part of three Illinois counties (Will, Grundy and Kendall).

The Dresden Station EPZ is subdivided into a total of 16 Sub-Areas, or Emergency Response Protection Areas (ERPAs). These ERPAs are the basic units for which protective action recommendations are issued. Sub-Area boundaries often follow geographic (township) boundaries, and reflect distance and direction from DGS. The distance ranges of concern are 0-2 miles, 2-5 miles, and beyond 5 miles. EPZ and ERPA boundaries are shown in Figure 1-1. The western side of the EPZ, accounting for almost half of the total EPZ area, is in Grundy County. ERPA 6, in the northwestern quadrant of the EPZ, is in Kendall County. The seven ERPAs on the eastern side of the EPZ are all in Will County.

A listing of the 2010 permanent resident population by ERPA within the Dresden Station EPZ is shown in Figure 1-1. Table 1-1 compares the EPZ population from the 2010 and the 2000 census. The population residing in the EPZ grew by 35,808 between 2000 and 2010, an increase of 50.9 percent. ERPAs 1, 6, 13 and 14 all grew by 80 percent or more. More than 30 percent of the EPZ population of 106,100 residents is in ERPA 13, which includes Shorewood and the southwest corner of the city of Joliet. Between 2000 and 2010, the population of ERPA 13 increased by a factor of 2. ERPA 1, immediately north of DGS, contains the city of Minooka. The population of ERPA 1 grew from 4,525 to

13,061 since 2000. Six other ERPAs (2, 5, 10, 12, 15 and 16) have more than 5,000 residents. The city of Morris is split between ERPAs 2 and 5; Diamond and Braceville are in ERPA 10; Channahon is in ERPA 12; Wilmington is in ERPA 15; and Braidwood is in ERPA 16. Braidwood Generating Station is located just outside the Dresden EPZ, immediately south of ERPA 16. ERPAs 9 and 11 are very rural, with fewer than 500 residents in each.

Interstate 55 crosses the EPZ in a north-south direction, while the Illinois River crosses the EPZ from the northeast to the west. I-80 crosses the EPZ roughly parallel to, and a few miles north of, the Illinois River.

NRC guidance also requires consideration of potential “shadow evacuation” of the population residing immediately outside the EPZ, to a distance of 15 miles. The permanent resident population within this region is 174,820. Most of this population resides in Will County to the northeast of the EPZ, in Joliet. It was assumed (based on NRC guidance in CR-7002) that 20 percent of the population in this region would evacuate. The occupancy factor for EPZ residents (1.93 persons per vehicle) was applied to estimate vehicle demand for this population. Shadow evacuees residing outside the EPZ add vehicle demand of 18,116 vehicles. A map showing the population by distance and direction sector within 15 miles of Dresden Station is provided in Figure 1-2. (Due to roundoff errors that propagate when sector boundaries cut across census block boundaries, the population numbers disagree slightly between Figure 1-1 and Figure 1-2.)

1.3 Designated Reception Centers

The Dresden Station emergency response evacuation plan directs residents of communities within the EPZ to evacuate to specified reception centers. If evacuation is initiated while schools are in session, students will be transported directly to designated Host Schools, and families are instructed to meet up with the students at those locations.

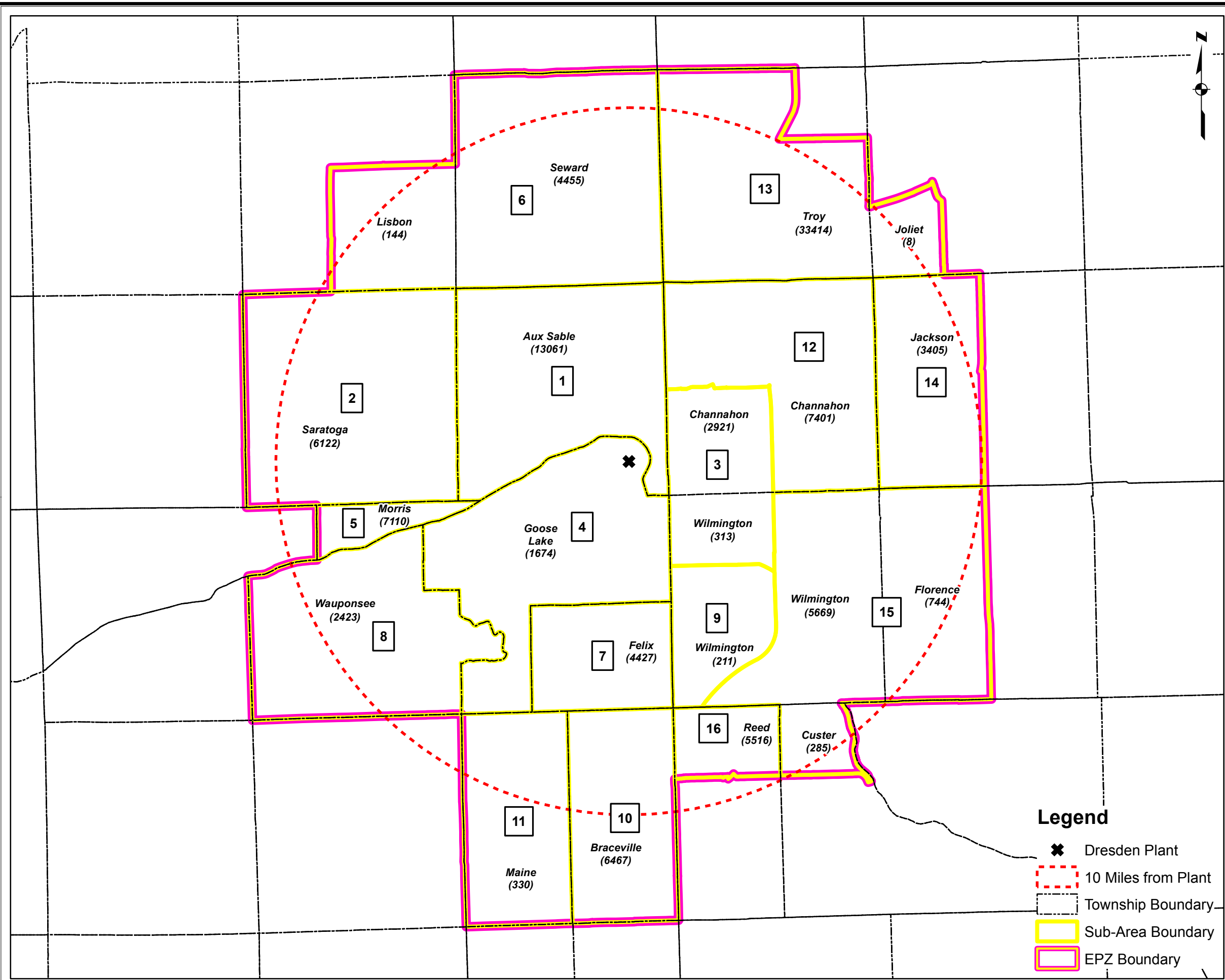
The designated receiving communities for ERPAs within the Dresden Station EPZ are Orland Park, Oglesby and Pontiac, IL. The preferred reception community for each ERPA is listed in Table 1-2. (Some ERPAs may evacuate differently, depending upon the prevailing wind direction.) The roadway network used to develop evacuation time estimates includes the major roadways recommended to the public as evacuation routes from individual communities to designated reception centers. The roadway network is designed to utilize all available major roadways, with traffic flow directed radially outward

from DGS toward the EPZ boundaries. The roadway network is described in detail in Section 4.

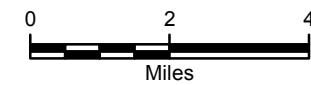
1.4 Overview of Changes from Previous ETE Study

The changes in residential population within the EPZ are summarized in Table 1-1. The revised NRC guidance and newly acquired data led to a number of other changes in the ETE methodology and assumptions. Table 1-3 provides a summary comparing the main features and assumptions of the current study to the 2003 ETE study. The telephone survey of EPZ residents provides a new basis for estimating vehicle occupancy and departure times, while new NRC guidance has specified different assumptions regarding background and “shadow” traffic. The ETE methodology and assumptions for the current study are discussed in greater detail in following sections of the report.

The large increase in EPZ population, revised vehicle occupancy for residents (1.93 persons per vehicle, based on survey), revised departure times for schools and special facilities (no “early warning”) and the revised departure time curves for residents (based on survey responses and estimated time for warning diffusion) are expected to have the greatest influence on estimated evacuation times. The “shadow evacuation” adds vehicle demand of 18,116 vehicles in the area immediately outside the EPZ. The potential impacts of shadow evacuation will be greatest for travel to the Orland Park reception center. Each of these issues is discussed in more detail in following sections of the report.



ERPA	2010 Population
1	13,061
2	6,122
3	3,234
4	1,674
5	7,110
6	4,599
7	4,427
8	2,423
9	211
10	6,467
11	330
12	7,401
13	33,422
14	3,405
15	6,698
16	5,516
TOTAL:	106,100



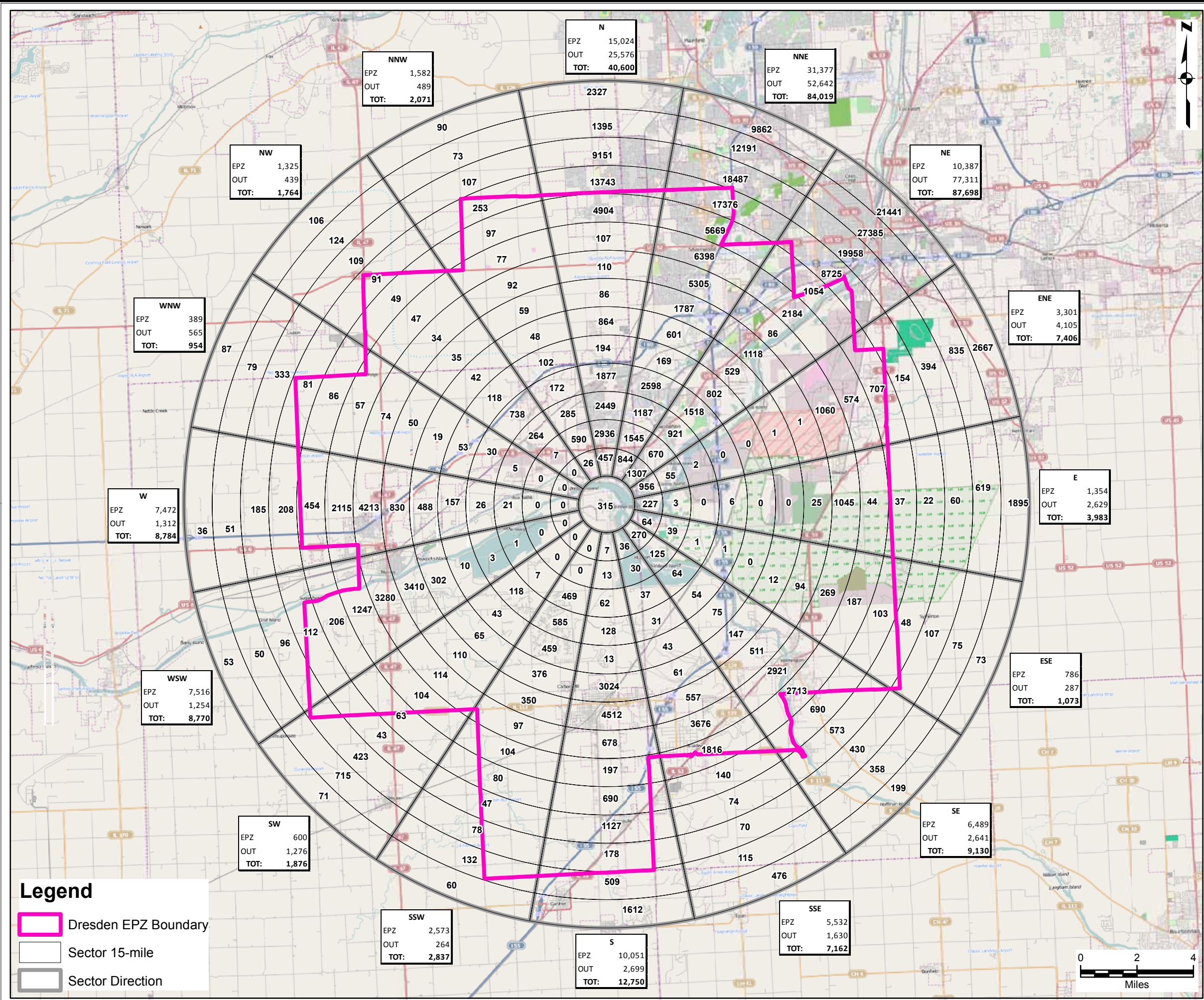
- Legend**
- ✖ Dresden Plant
 - - - 10 Miles from Plant
 - Township Boundary
 - Sub-Area Boundary
 - █ EPZ Boundary



ARCADIS

EXELON GENERATION

DRESDEN GENERATING STATION POPULATION DISTRIBUTION - SUB-AREAS



-88.267952 / 41.389836

DISTANCE	POPULATION	DISTANCE	POPULATION
EPZ 1	315		NA
EPZ 2	4,194		NA
EPZ 3	6,013		NA
EPZ 4	5,775		NA
EPZ 5	7,885		NA
EPZ 6	2,238		NA
EPZ 7	6,579		NA
EPZ 8	13,535		NA
EPZ 9	23,022	OUT 9	32
EPZ 10	14,918	OUT 10	3,053
EPZ 11	12,402	OUT 11	2,627
EPZ 12	8,948	OUT 12	33,729
EPZ 13	227	OUT 13	49,939
EPZ 14	22	OUT 14	44,684
		OUT 15	41,055
EPZ TOTAL:	106,073	EPZ-15 TOTAL:	175,119
TOTAL POPULATION: 281,192			

NOTE:
• EPZ total population varies from 2011 draft report totals by less than 1% due to the rounding of population calculations from additional block processing.
• Plant to 1 mile population not summarized in any sector direction.

Open Street Map Base Image Source: ArcGIS Online Services, Access date: 09/19/2012, via ArcGIS v10. This image is not for re-sale or distribution outside of the use of this PDF.



EXELON GENERATION

POPULATION DISTRIBUTION
EPZ & SECTORS 15-MILE
Figure 1-2

DRESDEN GENERATING STATION

Table 1-1: Permanent Resident Population in the Dresden Station EPZ

ERPA	Local Communities (city, village, township)	Census 2000 ^a	Census 2010 ^b	Percent Change
0 to 2 miles				
1	Aux Sable Twp, Minooka (Grundy County)	4,525	13,061	188.6
3	Channahon Twp (part), Wilmington Twp (part) (Will County)	1,797	3,234	80.0
4	Goose Lake Township (Grundy)	1,784	1,674	-6.2
2 to 5 miles				
7	Felix Township, Carbon Hill, Diamond (Grundy)	4,009	4,427	10.4
9	Wilmington Twp (part) (Will)	249	211	-15.3
12	Channahon Township, Channahon (Will)	7,826	7,401	-5.4
5 to 10 miles				
2	Saratoga Township (Grundy)	4,448	6,122	37.6
5	Morris Twp, Morris (Grundy)	7,781	7,110	-8.6
6	Seward Twp, Lisbon Twp (part) (Kendall County)	1,000	4,599	359.9
8	Wauponsee Township (Grundy)	2,491	2,423	-2.7
10	Braceville Twp, Braceville, Coal City (Grundy)	4,895	6,467	32.1
11	Maine Township (Grundy)	242	330	36.4
13	Troy Twp (part), Joliet (part), Shorewood (Will)	16,704	33,422	100.1
14	Jackson Twp (part), Elwood (Will)	1,852	3,405	83.9
15	Wilmington Twp (part), Custer Twp (part) (Will)	5,921	6,698	13.1
16	Reed Twp, Braidwood (Will)	4,768	5,516	15.7
Dresden Station EPZ Total		70,292	106,100	50.9

Sources: a) 2000 census data from 2003 ETE study report

b) 2010 census data (block level)

Table 1-2: Designated Reception Centers for Evacuation

ERPAs	Receiving Community and Primary Routes Out of EPZ
1 (0 – 2 mi)	Orland Park or Oglesby; Hwy 6 E or W, I-80 E or W
3 (0 – 2 mi)	Orland Park or Pontiac; I-55 N or S
4 (0 – 2 mi)	Oglesby or Pontiac; local roads E, W and S
7 (2 – 5 mi)	Pontiac; Hwy 113 W, I-55 SW
9 (2 – 5 mi)	Pontiac; I-55 SW
12 (2 – 5 mi)	Orland Park; Hwy 6 NE, I-55 N
2 (5 – 10 mi)	Oglesby; I-80 W, Hwy 47 N
5 (5 – 10 mi)	Oglesby or Pontiac; I-80 W, Hwy 47 N or S
6 (5 – 10 mi)	Orland Park or Oglesby; Hwy 52 E or W, I-80 E or W
8 (5 – 10 mi)	Pontiac; Hwy 47 S
10 (5 – 10 mi)	Pontiac; I-55 SW, Hwy 53 SW
11 (5 – 10 mi)	Pontiac; Local roads W
13 (5 – 10 mi)	Orland Park; I-80 E, Hwy 6 NE
14 (5 – 10 mi)	Orland Park; Hwy 53 N
15 (5 – 10 mi)	Pontiac; I-55 SW, Hwy 53 SW
16 (5 – 10 mi)	Pontiac or Orland Park; Hwy 53 SW, I-55 SW, Hwy 113 SE

Table 1-3: ETE Comparison

ETE Element	2003 ETE	Current Study
Permanent residents - Total population - Vehicle occupancy (persons per vehicle)	- 70,292 - 2.70 (one vehicle per household)	- 106,100 - 1.93
Transit dependent - Population estimate - Number of buses - Number of ambulances	Evacuation of transit dependent population was not addressed in 2003 study	- 1,600 persons - 27 bus/54 trips - No ambulances
Transient facilities - Estimated population - Vehicle demand - Adjust for double-count	(winter day/summer day) - 11,651/27,501 - 9,750/15,920 - No adjustment	(winter day/summer weekend) - 14,157/28,585 - 11,874/16,610 - Adjust for retail facilities
Special facilities - Estimated population - Number bus, van - Ambulance, other	(winter weekday) - 797 - 29 bus/van - 99 ambulance	(winter weekday) - 1,415 - 38 bus/van - 21 ambulances
Schools - Student population - Number of buses	(winter weekday) - 20,470 (day care included) - 301 bus/10 van	(winter weekday) - 24,083 (day care included) - 442 bus/37 van
Background traffic	None	Average traffic by time of day
Shadow evacuation (assumed basis)	None	20% of resident population outside designated zones
Special event(s)	None	None
Scenarios	- Winter day, winter night - Summer day, summer night - Both normal and adverse weather for all four cases	- Weekday (winter, summer) - Weeknight (winter, summer) - Weekend (winter, summer) - Adverse weather weekday only - Staged evacuation
Adverse weather	Snow for winter, rain for summer	Snow for winter, rain for summer
Evacuation model name and version	NetVac2	PTV Vision VISUM, VISSIM
Departure times	- Residential based on literature - Transient based on literature - Specials based on notification at alert	- Warning based on literature - Residential based on survey - Transient based on survey - Specials notified with public
Evacuation times	Estimates for 100%	Estimates provided for 90 and 100%

2. Methodology and Assumptions

2.1 Sources of Data and General Assumptions

The following data sources were reviewed and assumptions made in order to develop the appropriate population and roadway databases used for the evacuation analysis:

- Population estimates for permanent residents were developed from 2010 U.S. Census Bureau data.
- Population estimates for seasonal residents were developed from 2010 United States Census Bureau data on housing units. Census data identify the number of seasonal housing units (vacant housing units for “seasonal or occasional use”) at different geographic levels (e.g., by township, census tract, block group, block). A conservative estimate of seasonal population was developed by assigning six (6) persons per seasonal housing unit.
- Population estimates for major employers were developed from ESRI list and the facility list from the 2003 study report. ARCADIS conducted internet searches and telephone surveys to estimate facility employment and staffing levels for different scenarios. Only facilities with potential staffing level of at least 50 persons per work shift were pursued.
- Information relating to hotels, motels and recreational facilities was obtained from tourism websites, 2011 AAA TourBook listings, and the 2003 study report. For parks, visitation information was obtained from state park agencies.
- Current population estimates for schools were obtained primarily from county emergency response agencies, plus enrollment information available on the internet.
- Lists of hospitals, rest homes and incarceration facilities were obtained from each county emergency management agency.
- The staffing levels at DGS reflect estimated peak personnel onsite during outage conditions. These data were provided by Exelon Generation.

- Initial estimates of roadway characteristics were obtained from the NAVTEQ database. Roadway geometric and operational data were compiled based on field surveys performed by ARCADIS in 2011.
- Average traffic volumes by time of day for weekday and weekend for designated evacuation routes were obtained from state and county transportation agencies. These data were used to assign background traffic volumes for the roadway network. It was assumed that access control would be established within two hours following the public notice to evacuate.
- Preparation and mobilization times for the permanent resident population were developed based on the results of a telephone survey, combined with published time estimates for warning diffusion. The survey provided estimates of the time to depart from home following notification, and commuting times for household members who would return from work before departing. Median departure times for residents are longer than the times assumed in the previous study.
- Departure times for transient facilities were estimated assuming relatively prompt evacuation of most workplaces and recreational facilities once notification is received. The distribution of departure times also reflects information gathered from the telephone survey of EPZ residents, as discussed in Section 3.
- The evacuation time estimates represent the time required to evacuate the Dresden Station EPZ and designated analysis areas and include the time required for initial notification.
- Evacuation time estimates are presented for 90 percent and 100 percent of evacuating vehicles. It is assumed that all persons within the EPZ area will evacuate. For the 100 percent evacuation time, evacuation of the EPZ will be considered complete after all evacuating vehicles are outside of the EPZ or analysis area.
- The general public will evacuate using designated evacuation routes and will proceed to the reception centers listed in Table 1-2 after leaving the EPZ. When schools are in session, children attending school will be transported directly to designated Host Schools.
- It is assumed that existing lane utilization will prevail during the course of the evacuation. Traffic control signals will be over-ridden or converted to flashing

mode as necessary to give preference to flow on all major outbound roadways. It is also assumed that State and municipal personnel will restrict unauthorized access into the EPZ, consistent with existing traffic management plans.

- The evacuation analysis cases are described in Section 2.3 and represent a range of conditions, per guidance presented in CR-7002. These cases have been chosen to provide information for an appropriate range of conditions (i.e., low, typical and high population; fair and adverse weather) to guide the protective action decision-making process. Potential “special events” such as holiday parades and sporting events occurring within the EPZ were considered, based on input from state and county agencies. None of these events was judged to represent a major departure from the peak traffic assumptions reflected in the “standard” scenarios, so a Special Event scenario was not included in this study.
- Vehicle occupancy rates used for the various population categories are as follows:
 - Permanent residents: 1.93 persons per vehicle, based on telephone survey results
 - Major places of employment – 1 vehicle per employee.
 - Motels – 1 vehicle (1 to 2 persons) per occupied room.
 - Recreational areas – 1 vehicle (3 persons) per campsite; 1.5 persons per vehicle at visitor centers and museums.
 - Schools: 55 students and 3 staff per bus; one vehicle per additional staff person.
 - Hospitals/Nursing Homes/Correctional Facilities – 2 persons per ambulance/medical van for non-ambulatory patients and 20 people per bus or van for ambulatory residents.
- The transport-dependent population will be evacuated by bus or ambulance through efforts coordinated by state and municipal emergency preparedness officials.

- Adverse weather refers to moderate to heavy rainstorms for summer conditions, and a moderate snowstorm for winter conditions.

2.2 Interaction with Agencies

Emergency management agencies responsible for planning and implementing the emergency response procedures during a radiological emergency were consulted during the development of this ETE study. The Illinois Emergency Management Agency (IEMA) and emergency agencies for Will, Grundy and Kendall Counties were contacted to obtain information regarding special and transient facilities in the EPZ, transportation resources available to evacuate special facilities, and the transport dependent general public. Those agencies were also consulted to identify any major events that take place within the EPZ that should be considered for a Special Event scenario. The Illinois Parks and Recreation Association (IPRA) list of special and transient facilities for all six Exelon nuclear stations in Illinois was provided to ARCADIS by Exelon. IEMA and the county agencies reviewed the draft report and the facility databases used in this study.

Representative background traffic volumes for the EPZ roadway network were obtained from state and county transportation agencies.

2.3 Summary of Methodology for Traffic Simulation

The evacuation time estimates developed for the Dresden Station EPZ are based upon a time distribution of evacuation events as opposed to a summation of sequential events. This methodology assumes that the various time components in an evacuation (i.e., the time associated with preparation, mobilization, etc.) overlap and occur within certain time ranges. The time distribution approach is based upon assumptions consistent with the NRC guidance of CR-7002.

Trip generation times are used to develop vehicle loading curves for different population types within the permanent, transient, and special facility populations. A trip generation time consists of two main components: warning diffusion time and mobilization time. Warning diffusion time is the time it takes for people to receive an emergency notification. The type of warning systems employed in the EPZ, such as emergency alert system (EAS), sirens, and tone alert radios (TARs) affects the distribution of warning times. Availability of more warning systems leads to faster warning diffusion to the public.

Mobilization time is the time between the receipt of notification and when individuals leave for evacuation. Mobilization time depends on the type of population and activity. Warning diffusion time and mobilization time distributions are used to develop composite loading distribution or trip generation curves for different population segments. Trip generation times for transit dependent facilities, special facilities and schools were developed separately from those for the general public.

2.4 Conditions Modeled

Pursuant to the guidance in CR-7002 and NUREG-0654, Rev. 1, evacuation time estimates have been prepared for a range of temporal, seasonal and weather conditions. Estimates have been prepared for weekday, weeknight and weekend scenarios during winter and summer. All scenarios are simulated with fair weather conditions; weekday scenarios are also simulated assuming adverse weather. Fair weather refers to conditions where roadways are clear and dry, and visibility is not impaired. Adverse weather during summer periods is defined as heavy rain, with impaired visibility; roadway capacities are reduced by 10 percent and speeds are reduced by 15 percent. Adverse weather during winter periods is defined as a snowstorm condition where roadway capacities and speeds are reduced by 15 percent.

The various population components which have been incorporated in the evacuation scenarios are summarized below:

2.4.1 Week Day

This situation represents a typical weekday period with the work force is at a full daytime level. During winter, schools are in session. Vehicle demand estimates for weekday scenarios reflect the following conditions:

- Most permanent residents within the EPZ will evacuate from their places of residence;
- Major work places are fully staffed at typical daytime levels;
- DGS employment is at an estimated peak daytime level, representative of operation during outage conditions;
- Schools and daycares are at current enrollment;

- Hospitals and nursing homes are at current enrollment or typical occupancy;
- Motel facilities are occupied at peak (winter or summer) levels; and
- Recreational facilities are at winter or summer weekday levels.

2.4.2 Week Night

This situation reflects a typical night period when most permanent residents are home and the work force is at evening shift level. Assumptions on the population levels for this condition include the following:

- Permanent residents within the EPZ will evacuate from their places of residence;
- Major work places are at typical evening levels;
- DGS employment is at an estimated peak night-time level;
- Day schools and daycares are closed;
- Hospitals and nursing homes are at current enrollment or typical occupancy, and staffing is at typical night-time levels;
- Motel facilities are occupied at (winter or summer) weekday levels; and
- Recreational facilities are at typical (winter or summer) evening levels.

2.4.3 Weekend

The weekend scenario represents a daytime period when most residents are at home and major work places are at typical weekend levels. Assumptions on the population levels for this condition include the following:

- Residents within the EPZ will evacuate from their places of residence;
- Major work places are at typical weekend levels;
- Day schools and daycares are closed;

- Hospitals and nursing homes are occupied and staffed at weekend levels;
- Motel facilities are occupied at weekend (winter or summer) levels; and
- Recreational facilities are at (winter or summer) weekend levels.

2.4.4 Special Event Consideration

County agencies and IEMA were asked to identify events such as a county fair or Fourth of July observance that would bring a large number of visitors into the EPZ. No events were identified that are large enough to pose a significant challenge for an emergency evacuation, so a Special Event scenario was not developed for the Dresden EPZ. (The same decision was made for the 2003 update study.)

2.4.5 Sensitivity to Population Growth and Roadway Impact

Additional scenarios were evaluated to assess the sensitivity of ETEs to population growth and roadway impact. These sensitivity cases used the Summer Weekday, Normal Weather case for the Full EPZ as the base case. The population growth analysis is used to determine how rapidly the ETE would increase as the resident population in the EPZ is increased.

For the roadway impact scenario, a major evacuation route is removed or reduced in capacity. Specifically, one of the five highest volume roadways is removed from service, or capacity is reduced by one lane (for a multi-lane, limited-access roadway such as an interstate highway). A more detailed description of the sensitivity analysis is provided in Section 6.5.

3. Population and Vehicle Demand Estimation

The development of vehicle demand estimates for the Dresden Station EPZ consisted of two primary steps. The first step was the determination of the number and distribution of the population to be evacuated. The second step was the determination of the appropriate number of vehicles for each of the population categories. Federal guidance (CR-7002) indicates that three population categories should be considered: permanent residents, transients, and persons in schools and special facilities (such as medical facilities/ nursing homes, and day care facilities).

The methodology used to develop the total population and vehicle demand estimates within the Dresden Station EPZ incorporates intrinsic double counting. For example, a portion of the identified employees and visitors to recreational areas are also permanent residents within the EPZ. In addition, school children are counted in the resident population, but are also counted in the special facility population. While population and vehicle demand estimates incorporate some adjustments for double-counting, the estimates are considered to be conservative (i.e., they over-estimate actual population and vehicle levels which may be in the area at any given time). Population and vehicle demand estimates for each of the population categories are summarized below.

3.1 Permanent Residents

Permanent residents are those persons identified by the census as having a permanent residence within the EPZ. The Census 2010 population data for census tracts, block groups and blocks were used to determine the permanent resident population within the EPZ and within each municipality and Sub-Area. The allocation of the resident population to entry nodes on the roadway network was based on detailed census block maps.

An estimated 106,100 persons reside permanently within the Dresden Station EPZ. Table 3-1 presents the resident population and vehicle demand by Sub-Area. The EPZ Sub-Areas are defined based on distance and direction from DGS, and generally follow geographic (township) boundaries. ERPA 4 (Goose Lake Township) contains DGS. This ERPA extends 7 miles west of DGS and 4 miles south. ERPA 1 (Aux Sable Township) extends 5 miles to the west and 5 miles north of DGS. ERPA 3 (part of Channahon and Wilmington Townships) extends from 1 to 4 miles east of DGS, 2 miles north and 3 miles south.

In the 2 to 5-mile distance range, ERPA 7 (which includes Coal City) is south of DGS, while ERPA 9 is southeast and ERPA 12 is northeast of the plant. Most of the largest population centers in the EPZ (Joliet, Shorewood, Morris, Wilmington, Braidwood) are in ERPAs more than 5 miles from DGS.

A telephone survey of EPZ residents was conducted to obtain information relating to how many vehicles residents would use to evacuate and how long it would take them to depart following notification. The survey questionnaire and results are provided in Appendix B.

3.1.1 Auto-Owning Permanent Population

Vehicle demand associated with the permanent resident population was estimated based on telephone survey responses. After adjusting survey results to reflect the age distribution of the EPZ, the estimated occupancy factor is 1.93 persons per vehicle, which corresponds to 1.45 vehicles per household. Total vehicle demand for EPZ residents for winter scenarios is 54,974. "Shadow evacuation" of 20 percent of the population residing outside the EPZ within 15 miles of DGS adds vehicle demand of another 18,116 vehicles.

For the 2003 ETE study, evacuation times were determined for vehicle demand assumption of one vehicle per household, or 2.70 persons per vehicle, for permanent residents.

3.1.2 Transport-Dependent Permanent Population

Emergency response plans specify that the transport-dependent population will receive transportation assistance. The Will County and Grundy County Emergency Response Plans include provisions for providing this assistance, including bus routes with designated pickup points in Joliet, Shorewood, Morris and Minooka. Based on telephone survey results, about 2 percent of households (with phones) had either no vehicle or no licensed driver. NRC guidance (CR-7002) indicates that between 1.5 and 5 percent of residents may require transportation. ETE estimates are based on evacuation of up to 1,600 transit dependent residents from the EPZ.

Individuals requiring transit from reception centers to congregate care centers will be transported in a separate set of vehicles from those designated to transport the transit dependent and special facilities out of the EPZ.

3.2 Seasonal Residents

The seasonal population category addresses those who reside in the EPZ on a temporary basis, particularly during the summer period. The 2010 U.S. Census of Population and Housing reports the number of vacant households classified as “for seasonal or occasional use”. Census data identified 846 such housing units in the Dresden Station EPZ, including 469 in ERPA 16 (Reed Township). Population and vehicle demand were estimated assuming 6 residents and 2 vehicles per household.

3.3 Transient Population

The transient population segment includes persons in the work force, hotels/motels, and recreational areas. Regional maps and mapping software were used to determine facility locations and assign entry nodes. Significant employers within the EPZ were identified using ESRI Business Analyst Online (BAO). BAO is a web-based analytical and mapping tool that facilitates location-specific queries about business and demographic data. Data available on BAO includes information on business location and number of employees. ESRI extracts business data from a comprehensive list of businesses (over 12 million U.S. businesses) licensed from Infogroup. ARCADIS used BAO to search for all employers with 50 or more employees located within an 11-mile radius of DGS. CR-7002 recommends consideration of “large employers” with 50 or more employees on a single shift.

The list from BAO was screened to eliminate businesses where workers do not remain on-site (e.g., transportation and trucking companies, construction, realtors, home health care). Employment at schools and special facilities (e.g., hospitals, nursing homes) is generally tracked as part of the special facilities database. The reduced list was then reviewed to exclude facilities located outside the EPZ, and to determine the ERPA for those located in the EPZ. The new list of employers was compared to the list from the 2003 study and the IPRA Special Facilities list provided by IEMA.

Telephone calls were made to selected large employers to verify employment numbers and to estimate staffing levels during weekday, weeknight and weekend periods. The results from those calls confirmed that BAO listings provided accurate locations and current, reliable employment numbers for most establishments. Workforce numbers for DGS were provided by Exelon Generation and reflect the peak work force during outage conditions.

Numbers of units and campsites for motels and recreational areas were obtained from the TripAdvisor website, the 2011 AAA TourBook for Illinois, and from state and county

tourism websites. Seasonal occupancy was estimated based on capacity figures (e.g., number of campsites) and a telephone survey of selected facilities. State and local parks agencies also provided visitation numbers for parks and campgrounds.

For purposes of estimating the total number of vehicles associated with the transient population segment, an occupancy factor of 1.0 employee per vehicle was used for most work places. For the hotel/motel and recreational populations, it was assumed that there would be 1.0 vehicle (1.5 persons) per hotel/motel unit. For parks and campgrounds, 1.0 vehicle (3 persons) per campsite was assumed. Daytime park visitation numbers were generally obtained as numbers of vehicles, and an occupancy factor of 1.5 persons per vehicle was assumed. For museums and visitor centers, the same factor of 1.5 persons per vehicle was assumed. Campgrounds were assumed to be fully occupied during summer. Motels were assumed to be fully occupied for all scenarios.

Vehicle demand for selected recreation facilities was reduced in consideration of double-counting. These facilities include recreation clubs and other facilities that would be used predominantly by those residing within 10 to 20 miles. An adjustment factor of 0.75 was applied, assuming that (a) roughly half of visitors reside in the EPZ, and (b) roughly half of EPZ residents would return home before evacuating. Similar adjustments were made for shopping centers and large retail outlets.

Table 3-2 presents a summary of the transient population by Sub-Area for each scenario. The transient population and associated vehicle demand are greatest for summer weekday and summer weekend scenarios. Recreation facilities are located in ERPA 16 (Braidwood), along the Kankakee River in ERPA 3 and 15, and along the Illinois River (ERPA 1, 4 and 13). For all scenarios, ERPA 13 has highest population and vehicle demand from transient facilities, reflecting a combination of employers, motels, retail and recreation facilities. Population data and vehicle demand estimates for the transient population segment, including the work force, hotels and motels, and recreational areas are presented by facility in Appendix A. A breakdown of population by distance and direction sectors was not developed for transient and special facilities, since state and county agencies rely on population by ERPAs for emergency response planning.

3.4 Special Facilities Population

The special facility population segment includes persons in schools, hospitals, nursing homes and correctional facilities who will require transportation assistance during an evacuation. Most school facilities are located in the ERPAs with large residential

population. The special facilities population is summarized by ERPA in Table 3-3; data by facility is provided in Appendix A.

3.4.1 Medical, Nursing Care and Correctional Facilities

The EPZ has one hospital, in Morris, and a small number of nursing homes and assisted living facilities. Vehicle occupancy for nursing home patients is two non-ambulatory patients and one staff per ambulance, 20 residents or patients plus 3 staff per vehicle (bus or van) for ambulatory patients, plus one vehicle per staff person who does not evacuate with patients.

3.4.2 Schools and Day Care

43 elementary and secondary schools and 21 pre-school/daycare facilities have been identified within the Dresden Station EPZ, with a total population of 24,344 students. None of the identified schools is residential, so students are only present on weekdays during the school year. Vehicle occupancy for public schools is based on 58 persons (55 students, 3 staff) per bus, plus one vehicle per additional school staff. Student population for public schools was determined from state-published enrollment information.

The 21 licensed child care (large daycare) facilities have an estimated daytime population of 1,817 students and staff. Those facilities were identified from internet listing of licensed childcare establishments. The population estimates represent the licensed capacity of each facility. Smaller home-based daycare facilities (capacity 10 or less) were not tabulated; those facilities contribute little vehicle demand beyond that assigned to EPZ residents.

Estimates of population and vehicles for Joliet Junior College, with enrollment of over 10,000 students, was addressed through information provided campus security. The approximate (typical) number of parked vehicles was provided for weekday, week night and weekend scenarios during the regular school year and for summer session.

3.5 Emergency Response Planning Area Population Totals

Population and vehicle demand totals for each Sub-Area are summarized in Table 3-4. The totals listed in the table represent the peak number of people to be evacuated for each analysis case discussed in Section 6 of this report.

Vehicle demand is highest for the summer weekday scenario. Vehicle demand for the highest scenario is 24 percent higher than the lowest (winter weeknight) scenario. ERPA 13, Shorewood and Joliet, has the largest population and vehicle demand for all scenarios. The vehicle demand listed in Tables 3-2, 3-3 and 3-4 reflects the data used as input for the ETE traffic simulations.

Table 3-1: Resident Population and Vehicle Demand by EPZ Subarea

Sub-Area	Distance	Permanent Resident Population	Vehicle Demand (Winter)	Seasonal (Summer) Residents Population	Vehicle Demand (Summer)
1	0 – 2 mi	13,061	6,767	13,181	6,807
3	0 – 2 mi	3,234	1,676	3,828	1,874
4	0 – 2 mi	1,674	867	2,232	1,053
7	2 – 5 mi	4,427	2,294	4,643	2,366
9	2 – 5 mi	211	109	229	115
12	2 – 5 mi	7,401	3,835	7,509	3,871
2	5 – 10 mi	6,122	3,172	6,158	3,184
5	5 – 10 mi	7,110	3,684	7,182	3,708
6	5 – 10 mi	4,599	2,383	4,629	2,393
8	5 – 10 mi	2,423	1,255	2,459	1,267
10	5 – 10 mi	6,467	3,351	6,509	3,365
11	5 – 10 mi	330	171	342	175
13	5 – 10 mi	33,422	17,317	33,566	17,365
14	5 – 10 mi	3,405	1,764	3,441	1,776
15	5 – 10 mi	6,698	3,470	6,938	3,550
16	5 – 10 mi	5,516	2,858	8,330	3,796
EPZ total		106,100	54,974	111,176	56,666

Table 3-2: Transient Population and Vehicle Demand within the Dresden Station EPZ

Sub-Area	Population						Vehicles					
	Winter			Summer			Winter			Summer		
	Day	Night	Weekend	Day	Night	Weekend	Day	Night	Weekend	Day	Night	Weekend
1	945	182	78	945	182	78	945	182	78	945	182	78
2	517	363	413	692	463	663	396	250	284	513	317	450
3	682	120	300	877	186	506	618	120	195	714	142	305
4	815	185	65	1,695	785	1,065	665	185	65	1,052	385	532
5	615	42	620	1,395	67	1,520	543	42	260	855	52	620
6	180	40	20	180	40	20	180	40	20	180	40	20
7	105	25	50	755	325	850	93	25	33	427	125	467
8	0	0	0	0	0	0	0	0	0	0	0	0
9	139	53	176	947	53	1,330	93	36	118	632	36	887
10	70	0	100	1,750	0	2,500	47	0	67	1,167	0	1,667
11	0	0	0	0	0	0	0	0	0	0	0	0
12	2,201	752	1,639	3,591	1,019	2,964	1,935	580	987	2,483	681	1,501
13	7,327	6,518	10,254	9,292	8,118	11,149	5,866	4,406	6,334	6,883	5,021	6,642
14	0	0	0	0	0	0	0	0	0	0	0	0
15	474	40	190	2,575	1,315	2,645	434	40	133	1,410	465	1,345
16	87	70	95	2,417	370	3,295	59	47	64	1,512	147	2,097
EPZ total	14,157	8,389	14,000	27,110	12,923	28,585	11,874	5,953	8,637	18,771	7,592	16,610

Table 3-3: Population and Vehicle Demand for Schools and Special Facilities in the Dresden Station EPZ

Sub-Area	Population						Vehicles					
	Winter			Summer			Winter			Summer		
	Day	Night	Weekend	Day	Night	Weekend	Day	Night	Weekend	Day	Night	Weekend
1	6,554	0	0	96	0	0	762	0	0	14	0	0
2	1,238	138	138	349	138	138	181	24	24	82	24	24
3	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0
5	4,222	399	399	910	399	399	920	168	168	538	168	168
6	0	0	0	0	0	0	0	0	0	0	0	0
7	364	0	0	0	0	0	42	0	0	0	0	0
8	45	0	0	36	0	0	6	0	0	6	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	2,470	0	0	214	0	0	284	0	0	28	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	1,924	6	6	136	6	6	227	2	2	22	2	2
13	16,963	3,367	2,317	3,739	1,717	1,217	4,898	2,264	1,514	2,138	1,114	764
14	482	0	0	0	0	0	56	0	0	0	0	0
15	1,705	155	155	260	155	155	260	16	16	93	16	16
16	1,695	0	0	28	0	0	197	0	0	4	0	0
EPZ total	37,662	4,065	3,015	5,769	2,415	1,915	7,833	2,474	1,724	2,925	1,324	974

Table 3-4: Summary of Population and Vehicle Demand within the Dresden Station EPZ

Sub-Area	Population						Vehicles					
	Winter			Summer			Winter			Summer		
	Day	Night	Weekend	Day	Night	Weekend	Day	Night	Weekend	Day	Night	Weekend
1	20,560	13,243	13,139	14,222	13,363	13,259	8,475	6,949	6,845	7,766	6,989	6,885
2	7,876	6,623	6,673	7,199	6,759	6,959	3,749	3,446	3,480	3,779	3,525	3,658
3	3,916	3,354	3,534	4,705	4,014	4,334	2,294	1,796	1,871	2,588	2,016	2,179
4	2,489	1,859	1,739	3,927	3,017	3,297	1,532	1,052	932	2,105	1,438	1,585
5	11,947	7,551	8,129	9,487	7,648	9,101	5,147	3,894	4,112	5,101	3,928	4,496
6	4,779	4,639	4,619	4,809	4,669	4,649	2,563	2,423	2,403	2,573	2,433	2,413
7	4,896	4,452	4,477	5,398	4,968	5,493	2,430	2,319	2,327	2,792	2,491	2,832
8	2,468	2,423	2,423	2,495	2,459	2,459	1,261	1,255	1,255	1,273	1,267	1,267
9	350	264	387	1,176	282	1,559	202	145	227	747	151	1,002
10	9,007	6,467	6,567	8,473	6,509	9,009	3,682	3,351	3,417	4,559	3,365	5,031
11	330	330	330	342	342	342	171	171	171	175	175	175
12	11,526	8,159	9,046	11,236	8,534	10,479	5,996	4,417	4,824	6,376	4,554	5,374
13	57,711	43,307	45,993	46,596	43,401	45,932	28,080	23,987	25,165	26,386	23,500	24,771
14	3,887	3,405	3,405	3,441	3,441	3,441	1,820	1,764	1,764	1,776	1,776	1,776
15	8,877	6,893	7,043	9,773	8,408	9,738	4,165	3,526	3,620	5,053	4,031	4,911
16	7,298	5,586	5,611	10,775	8,700	11,625	3,114	2,905	2,922	5,312	3,943	5,893
EPZ total	157,919	118,554	123,115	144,055	126,514	141,676	74,681	63,401	65,335	78,362	65,582	74,250

Population numbers reflect some double-counting between categories (residents, workforce, schools, etc.).

4. Evacuation Roadway Network

4.1 Network Definition

In order to estimate evacuation times for the Dresden Station EPZ, an evaluation of the roadway network likely to be used by departing vehicles was undertaken. ARCADIS relied on several sources of information to define the evacuation roadway network:

- Evacuation routes described in the existing State emergency response plan;
- Maps of highways and local roadways for the EPZ area;
- A field survey of the roadways in the Dresden Station EPZ.

The primary evacuation routings used in the modeling are indicated in Figure 4.1.

4.2 Evacuation Route Descriptions

The evacuation routings were developed to simulate travel out of the EPZ using available roadways. The network relies primarily on the evacuation routings depicted in the public information brochure. Descriptions of the primary evacuation routes for different geographic areas within the EPZ are outlined in Table 4-1.

4.3 Characterizing the Evacuation Network

Roadway characteristics such as roadway class, number of lanes, lane and shoulder width, speed limit, lane configuration near intersections, and traffic control are key factors in determining how fast an evacuation can be completed. These roadway attributes control roadway capacity, which in turn governs operating traffic conditions measured in terms of level-of-service (LOS). LOS is measured from A to F for roadway segments and intersections. LOS A represents free-flow conditions, and LOS F represents force or breakdown flow conditions.

ARCADIS used NAVTEQ[™] roadway data with detailed information, including local streets, to build the evacuation roadway network for the study. NAVTEQ data was imported into geographic information system (GIS) software (ESRI ArcGIS[™]) for conducting field surveys to verify evacuation roadway segment attributes. The information provided in the public information brochure for the site was used to highlight evacuation routes in GIS. ARCADIS has developed an integrated GIS-Global

Positioning System (GPS) tool that allows field personnel to record observations in an efficient and effective manner. The evacuation network, including traffic controls, was verified to a 15-mile radius from the plant, and along designated routes to the reception centers. Once the NAVTEQ data was verified through the field survey, the evacuation roadway network was transferred to the traffic simulation software VISUM for modeling different evacuation scenarios.

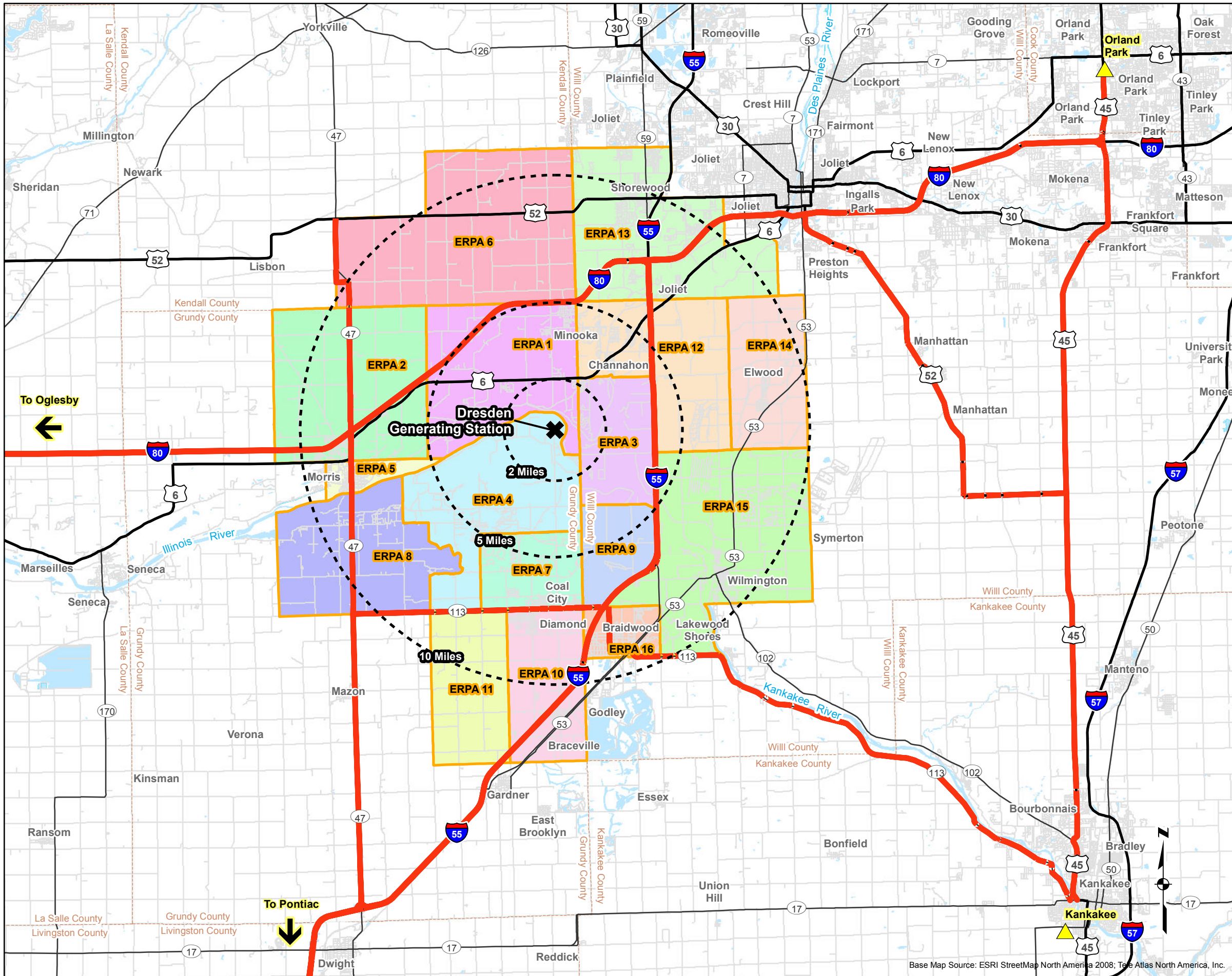
Having accurate traffic control information is important to accurately estimate evacuation times because intersections have potential to create bottleneck points. During an evacuation scenario, intersections might be manually controlled by officials, operated with existing traffic signal timing plans, or adjusted according to changing vehicular demand. In general, the emergency response plans for Dresden Station call for signal override, i.e., signals set to flashing to give priority to outbound travel on designated evacuation routes. Traffic control information is coded as part of the evacuation network database.

Background and pass-through traffic in the EPZ could account for significant number of vehicles and could influence evacuation depending on the direction of travel. As recommended in CR-7002, average daily traffic (ADT) volumes, representative of typical background levels, were obtained from state and county transportation agencies. During the simulations, background traffic will be included during the initial 2 hours of the evacuation scenario, up to the time when access control is established to prevent vehicles from entering the EPZ.

A map of the evacuation network showing node numbers and links, as recommended by the latest guidance, is provided in Appendix C. Detailed attributes of each roadway segment, such as link number, number of lanes, speed limit, length, and roadway type are also tabulated in Appendix C.

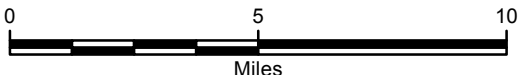
Table 4-1: Dresden Station EPZ Primary Evacuation Routes Out of EPZ

EPZ Sub-Areas	Evacuation Routes
1 (0 – 2 mi)	Highway 6 east or west, I-80 east or west
3 (0 – 2 mi)	Local roads east to I-55, then north or south
4 (0 – 2 mi)	Local roads east to I-55, west to Hwy 47, or south to Hwy 113
7 (2 – 5 mi)	Highway 113 west or east
9 (2 – 5 mi)	I-55 southwest
12 (2 – 5 mi)	Highway 6 northeast, I-55 north
2 (5 – 10 mi)	I-80 west, Highway 47 north
5 (5 – 10 mi)	I-80 west, Highway 47 north or south
6 (5 – 10 mi)	Highway 52 east or west, I-80 east or west
8 (5 – 10 mi)	Highway 47 south
10 (5 – 10 mi)	I-55 southwest, Highway 53 southwest
11 (5 – 10 mi)	Local roads west to Highway 47 south
13 (5 – 10 mi)	I-80 east, Highway 6 northeast
14 (5 – 10 mi)	Highway 53 north
15 (5 – 10 mi)	I-55 southwest, Highway 53 southwest
16 (5 – 10 mi)	Highway 53 southwest, I-55 southwest; Highway 113 southeast



Legend

- ✕ Station Location
- ▲ Reception Community
- Emergency Evacuation Route
- ERPA Division
- Interstate & US Highways
- Major Roads
- Minor Roads



ARCADIS

EXELON GENERATION

DRESDEN GENERATING STATION EVACUATION ROADWAY NETWORK

Figure 4-1

5. Evacuation Time Estimate Methodology

5.1 Evacuation Analysis Cases

Time estimates have been prepared for a general evacuation scenario for each of these analysis cases:

- Winter Weekday, Fair Weather and Adverse Weather Conditions
- Winter Weeknight, Fair Weather Conditions
- Winter Weekend, Fair Weather Conditions
- Summer Weekday, Fair Weather and Adverse Weather Conditions
- Summer Weeknight, Fair Weather Conditions
- Summer Weekend, Fair Weather Conditions

Areas for evacuation are selected based on the “keyhole” configuration (0-2 mile zone plus 2-5 mile or 0-5 mile plus 5-10 mile downwind zone). The partial-EPZ evacuation areas for DGS are reproduced in Table 5-1, based on the Protective Action Recommendation (PAR) chart. Separate simulations may not be necessary for each of the areas listed in Table 5-1. ETE estimates will generally be controlled by whether one or two critical Sub-Areas (e.g., ERPA 13) are included. Enough cases will be run to ensure that representative ETE estimates are obtained for all potential scenarios.

For all partial-EPZ evacuation cases, “shadow” vehicle demand (20 percent of residents) is assigned to all Sub-Areas which are not included in the evacuation region, in addition to the region outside of the EPZ.

Table 5-1: Potential Evacuation Areas for Dresden Station EPZ

Wind Direction (from)	EPZ Sub-Areas
2 mile radius & 5 miles downwind	
WD 002 to 046 deg	1, 3, 4, 7
WD 047 to 182 deg	1, 3, 4
WD 183 to 292 deg	1, 3, 4, 12
WD 293 to 299 deg	1, 3, 4
WD 300 to 338 deg	1, 3, 4, 9
WD 339 to 001 deg	1, 3, 4, 7, 9
5 mile radius & 10 miles downwind	
WD 002 to 026 deg	1, 3, 4, 7, 9, 10, 11, 12
WD 027 to 044 deg	1, 3, 4, 7, 8, 9, 11, 12
WD 045 to 068 deg	1, 3, 4, 7, 8, 9, 12
WD 069 to 083 deg	1, 2, 3, 4, 5, 7, 8, 9, 12
WD 084 to 092 deg	1, 2, 3, 4, 5, 7, 9, 12
WD 093 to 112 deg	1, 2, 3, 4, 7, 9, 12
WD 113 to 143 deg	1, 2, 3, 4, 6, 7, 9, 12
WD 144 to 177 deg	1, 3, 4, 6, 7, 9, 12
WD 178 to 199 deg	1, 3, 4, 6, 7, 9, 12, 13
WD 200 to 225 deg	1, 3, 4, 7, 9, 12, 13
WD 226 to 249 deg	1, 3, 4, 7, 9, 12, 13, 14
WD 250 to 266 deg	1, 3, 4, 7, 9, 12, 14
WD 267 to 286 deg	1, 3, 4, 7, 9, 12, 14, 15
WD 287 to 321 deg	1, 3, 4, 7, 9, 12, 15
WD 322 to 344 deg	1, 3, 4, 7, 9, 12, 15, 16
WD 345 to 353 deg	1, 3, 4, 7, 9, 10, 12, 15, 16
WD 354 to 001 deg	1, 3, 4, 7, 9, 10, 12, 16
Entire EPZ	All

5.2 Initial Notification

The EPZ surrounding DGS has an outdoor siren notification system consistent with the requirements of NUREG-0654, Rev. 1/FEMA-REP-1 Appendix 3. This system will be used by state and local officials to alert the population to turn on their radios and television sets. Pursuant to NUREG 0654, Rev. 1 guidance, notification messages will commence on the designated television and Emergency Alert System (EAS) radio stations concurrent with sounding of the sirens. Within 15 minutes of alert notification, essentially all of the population within the EPZ will begin to receive an informational or instructional message. If evacuation is deemed necessary, the timing of the order to evacuate and notification measures will be controlled by the state and local emergency preparedness officials. Those officials may choose to alert and mobilize an emergency response work force to control and expedite evacuation prior to the evacuation order.

5.3 Transportation Dependent Population

The transportation dependent population includes individuals without access to transportation, as well as those requiring special transportation assistance. Transportation dependent persons will be notified of a protective action recommendation in the same manner as the general public. If evacuation is recommended, persons needing transportation assistance will be informed through the EAS to contact the appropriate officials for assistance. Evacuees who do not have access to transportation and confined persons who require special transportation assistance will be provided transportation by the appropriate agency.

5.4 Evacuation Preparation Times and Departure Distributions

It is assumed that no vehicles will begin to evacuate during the 15-minute initial notification period. Accordingly, in the model simulations, vehicles will begin to evacuate at 15 minutes following the initial notification. After the initial 15-minute time period, vehicles are loaded at a linear rate over each 5-minute time interval, in accordance with the network loading distributions for each population type. For example, if 2 percent of 2500 vehicles (50 vehicles) are to be loaded at a specific location over a 5-minute period, PTV Vision will load 10 vehicles per minute at that location during the specified interval. Network loading distribution assumptions for the permanent population, transient population, and special facilities are based on the anticipated response of different population sectors to an evacuation order. Mobilization times for residents and workers reflect the data acquired by the telephone survey of EPZ residents, and are consistent with published data from actual historical

events (ORNL, 1990). Loading distributions are explained below, and summarized in Figure 5-1.

5.4.1 Permanent and Seasonal Population

Permanent and seasonal residents with access to automobiles will take varying amounts of time to begin evacuating. Some persons will leave as quickly as possible; most will take some time to prepare, pack valuables and clothes and then depart; some will take added time to secure property before departing; and some may require transportation assistance. In addition, actual departure and preparation times may vary according to the perceived severity of a particular evacuation order.

Based upon these factors, it was assumed that there would be a period of up to 3 hours over which the permanent residents would begin to evacuate. That is, permanent resident households would begin to evacuate between 15 and 180 minutes after the decision to notify the population to evacuate is made. Based on estimated warning diffusion and survey results from EPZ residents, during a weekday, 50 percent would depart within 75 minutes, 90 percent within 110 minutes, and 99 percent within 180 minutes. At night, with most household members at home, 50 percent would depart within 60 minutes, 90 percent within 95 minutes, and 99 percent within 165 minutes. These time profiles are generally consistent with observed behavior during evacuations for chemical releases.

5.4.2 Transient Population

It was assumed that the work force would be subject to the same warning diffusion as the general public. Based on estimated warning diffusion and survey results from EPZ residents, it was estimated that 50 percent of the work force would evacuate within 40 minutes following the decision to evacuate, 90 percent within 65 minutes, and 99 percent within 105 minutes. For a few facilities, it may be necessary for a limited number of workers to remain on the job in order to safely shut down processes, secure the facility or maintain essential operations. The evacuation time estimates do not address those workers who remain behind, since there is no reliable basis for predicting whether or how soon they will evacuate. The assumption that all workers evacuate provides a conservative estimate of vehicle demand. Discussions with emergency preparedness officials indicate that the same time distribution is also reasonable for the other transient population categories within the EPZ, including motels and recreation areas.

5.4.3 Special Facilities

It was assumed that special facilities (i.e., schools, nursing homes) within the EPZ would also receive initial notification promptly. Based upon data obtained from previous studies, vehicle departure times were developed that reflect a distribution of notification, preparation and mobilization times.

Consistent with the current off-site emergency response plans, it was assumed that schools will be evacuated via bus to the designated host schools. For school facilities, it was assumed that up to 2 hours may be required to assemble buses, transport vehicles to schools and to load students onto buses. Vehicles stationed at the facilities at the time of the ordered evacuation could be loaded in as little as 15 minutes following notification. Accordingly, 50 percent of school buses depart onto the evacuation network during the period between 15 and 75 minutes, 90 percent by 135 minutes, and 99 percent by 180 minutes. The school profile was also applied for daycare facilities.

Evacuation of nursing home facilities would also require additional time associated with preparation and transport of vehicles to the respective facilities. Based upon previous studies, it was assumed that these facilities would begin to evacuate between 30 minutes and 3 hours following notification. The first 50 percent will depart within 90 minutes, 90 percent within 150 minutes, and 99 percent within 165 minutes.

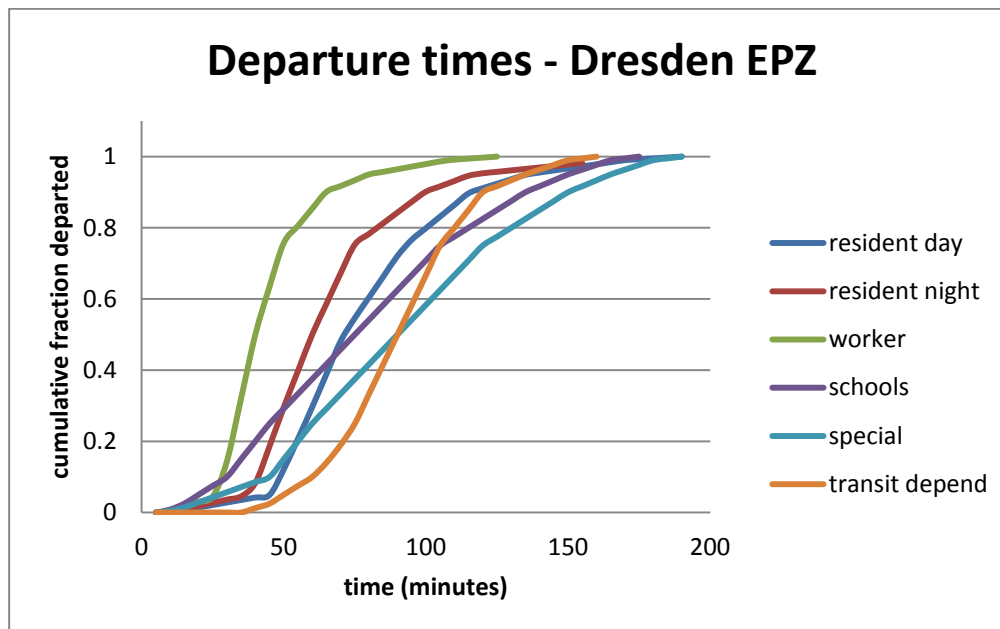


Figure 5-1. Departure Time Distributions for the Dresden Station EPZ

5.5 Evacuation Simulation

Traffic simulation provides the ability to analyze evacuation of an area in great detail. In most traffic simulation models, there are two main inputs: supply (roadway) network data and demand (population and vehicular) data. Traffic models use different types of algorithms to predict traffic flow and provide measures of effectiveness (MOEs) such as average travel times, total number of vehicles exiting the system, and queue lengths at various times and points.

5.5.1 General Structure

ARCADIS used PTV Vision to perform evacuation modeling for different scenarios. The PTV Vision traffic simulation software package includes VISSIM (microscopic traffic simulation) and VISUM (macroscopic traffic simulation). VISUM is a comprehensive, flexible software system for transportation planning, travel demand modeling, and network data management. VISSIM is capable of performing detailed microscopic simulation of traffic, public transport, and pedestrian simulations, and can model any type of traffic control and geometric configuration. Both VISUM and VISSIM are capable of performing multi-modal analysis including car, commercial vehicle, bus,

train, motorcycles, bicycles, and pedestrians. The two programs work together seamlessly, saving valuable time and resources.

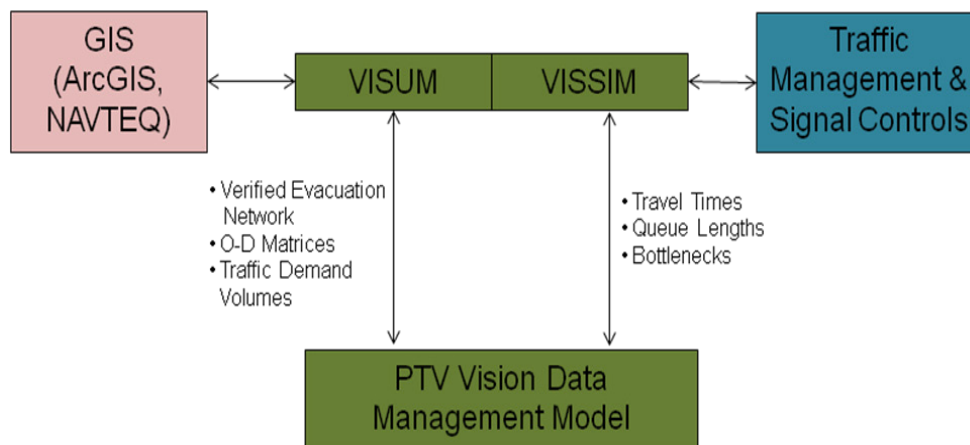


Figure 5-2. Evacuation Modeling and Simulation using PTV Vision Suite

VISUM was used to develop the evacuation network and population entry nodes (centroids). One of the key features of VISUM is its ability to interact seamlessly with GIS-data such as ESRI ArcGIS database. The field verified evacuation network data and demand data developed in ArcGIS were imported directly into VISUM. Origin-Destination trip tables were developed for the evacuation and imported into VISUM. VISUM software was then used to route the Origin-Destination information on the network using a dynamic equilibrium algorithm. This algorithm ensured that traffic levels on the network were realistic given the capacities available on individual links. Once an initial solution was found in VISUM, the information was exported into VISSIM for microsimulation. A microsimulation was deemed a necessary step in order to obtain detailed and realistic results on queuing and average travel times. VISSIM can model intersection with different type of traffic control such as yield signs, stop signs, and signals. VISSIM also provides a better understating of critical and congested part of the network.

5.5.2 Simulation Process

The ETE results include the time to evacuate 90 percent and 100 percent of the total permanent and transient population. Based on the current guidance, ETEs for special

facilities, schools, and the transit dependent population are developed separately; only the time to evacuate 100 percent of these population groups was needed.

Consistent with current guidance, vehicle demand for each scenario was based on 100 percent of the population residing in areas designated for evacuation, plus 20 percent of the population residing in Sub-Areas outside the designated evacuation area, and 20 percent of the population residing outside of the EPZ, out to a distance of 15 miles. Vehicle demand outside of the designated evacuation area is intended to account for the impact of “shadow evacuees”. A sensitivity analysis was performed to evaluate the impact of changes different input parameters and assumptions such as changes in lane closures, trip generation times, vehicular demand, evacuation routes, and background traffic.

The simulation process can be summarized as follows:

VISUM

1. Create every scenario based on
 - a. Background traffic
 - b. Time of day
 - c. Day of week
 - d. Weather condition
 - e. Season
 - f. Wind Direction
 - g. Shadow traffic
2. Run Dynamic Traffic Assign to and calculate Permanent and Transient, Shadow, Special Needs/Schools volumes
3. Assignment process will last until suitable convergence is reached. VISUM provides output on the goodness of convergence after assignment. The convergence fit is not as critical because this is an evacuation model of a no-notice event, therefore full user equilibrium cannot be expected.
4. Export to VISSIM.

VISSIM

1. Warm-up time built into background/pass-through traffic generation.

2. Check for any local calibration parameters.
3. Run the final multimodal Dynamic Traffic Assignment in VISSIM to consider queues and intersection delays
4. Sensitivity analysis and count evacuees at 2, 5, and 10 miles
5. Prepare ETE times

MOEs

1. 90 percent evacuation time (for all wind directions and scenarios, staged and normal evacuations)
 - a. This applies to evacuation of the PUBLIC only
2. 100 percent evacuation time (for all wind directions and scenarios, stage and normal evacuations)
3. Color-coded roadway map at various times (2, 4, 6 hrs) which identifies where long queues exist, including LOS E and F conditions.

6. Analysis of Evacuation Times

6.1 Evacuation Time Estimate Summary

Predicted ETEs for the general population in the EPZ are summarized by scenario and distance in Table 6-1 (times for 90 percent and 100 percent of vehicles to depart, for 2-mile zones, all zones to 5 miles, and all zones to 10 miles). The pattern of evacuation times is consistent with the differences in vehicle demand and travel time for different scenarios. The 2-mile zone involves the shortest travel distance and the fewest vehicles; 90 percent ETEs for the 2-mile zone range from 2:35 to 4:20, and 100 percent ETEs are 3:30 to 5:30. The times are longest for summer weekday and winter weekday scenarios with adverse weather.

For all zones out to 5 miles, the 90 percent ETEs are 4:55 to 6:15, and the 100 percent ETEs are 6:25 to 7:25. For the full EPZ, the 90 percent ETEs are 4:30 to 6:35, while the 100 percent ETEs are 8:45 to 10:00.

All of these times are indicative of significant delays related to traffic congestion. The large difference between 90 percent and 100 percent ETEs for the full EPZ cases reflects the time required for traffic to clear on a few congested evacuation routes. The differences in ETEs are consistent with differences in vehicle demand between scenarios. Adverse weather adds up to 50 minutes for the summer weekday ETEs, and up to 80 minutes for the winter weekday ETEs.

6.2 Comparison with Previous Study

The 90 percent ETEs for the current study are longer than the 100 percent ETEs from the 2003 study. Vehicle demand for the full EPZ for the current study (78,362 for Summer Weekday) is 77 percent higher than vehicle demand from 2003 (44,223 summer day). The new 90 percent ETE (with normal weather) is 4:35, compared to the 100 percent ETE of 3:35 (215 minutes) in 2003. The lower vehicle occupancy for the residential population is the biggest factor leading to higher vehicle demand and longer ETEs. The current ETEs also reflect the addition of background traffic and longer departure times (based on the survey of residents), particularly for the last 5 to 10 percent of the population.

6.3 Keyhole Evacuation Scenarios

ETEs for scenarios that reflect the current range of Protective Action Recommendation (PAR) scenarios to evacuate the near-field population and selected downwind zones are summarized in Table 6-2. All of the 2-mile zone and 5-mile downwind PAR

scenarios have very similar ETEs. These results reflect the strong influence of the relatively large population in ERPA 1, a 2-mile zone that is common to all PAR scenarios. The PAR scenarios for 5-mile zone plus downwind 10-mile sector again are all very similar. A number of the 10-mile zones have large enough population density to produce significant traffic congestion.

6.4 Staged Evacuation Scenarios

A series of staged evacuation scenarios were evaluated based on NRC guidance (CR-7002). In a staged evacuation, the 2-mile zone evacuates first, while surrounding zones shelter in place; after the population has evacuated the 2-mile zone, the outer zones would be instructed to evacuate. The “stage 1” time is determined by simulating evacuation of the 2-mile zone for the Winter Weekday, Normal Weather scenario, with only background and shadow traffic in other parts of the EPZ. Once the Stage 1 time (3:00) was determined, a revised set of departure curves was developed for the outer (Stage 2) zones. The Stage 2 departure curves for Dresden are shown in Figure 6-1. The departure curves are much steeper at the beginning of Stage 2, because people are able to return home and prepare to depart during Stage 1. Similarly, schools and nursing homes can bring resources on-site in preparation to evacuate.

Results for staged evacuation scenarios are summarized in Table 6-3. The 90 percent ETEs for the staged scenarios are consistently longer by 20 to 30 minutes than the corresponding “unstaged” ETEs. The 100 percent ETEs generally did not change significantly. The 100 percent times are controlled by congestion that persists long beyond the time when additional vehicles are departing to evacuate, with or without staged departure. The modeled results indicate that staged evacuation for Dresden would result in little or no benefit, in terms of the time required to evacuate the 2-mile zone, and relatively little penalty, in terms of increased ETEs for the zones which would initially be ordered to shelter.

6.5 Sensitivity to Population Growth and Roadway Impact

6.5.1 Population Growth

NRC guidance (CR-7002) for updating ETE studies more frequently than the 10-year federal census includes criteria based on population growth. Specifically, if the residential population growth in the EPZ since the last ETE update is sufficient to cause an increase in the ETE by 25 percent or by 30 minutes, whichever is less, then a full ETE update study must be performed.

A sensitivity analysis was performed by determining the 90 percent ETEs for increases of 5, 10, and 15 percent of the EPZ residential population for the Winter Weekday, Normal Weather scenario. This scenario produced the longest ETE by season or time of day. The population was increased in the same manner in the surrounding region, out to 15 miles. Results are illustrated in Figure 6-2. With a 10 percent increase in residential population above the 2010 census values, the 90 percent ETE for the full EPZ increased to 5:33, an increase of 18 minutes. With a 15 percent increase in population, the 90 percent ETE increased to 5:46, an increase of 31 minutes. These results demonstrate that a population increase of more than 10 percent above the 2010 census values would be required to cause the ETE to increase by 30 minutes. (Linear extrapolation indicates that a population increase of just under 15 percent would produce an ETE increase of approximately 30 minutes.) Since the EPZ residential population for Dresden changed by 51 percent between 2000 and 2010, it appears likely that an increase of 15 percent will occur before 2020.

The 100 percent ETEs increased more slowly than the 90 percent ETEs. With a 10 percent increase in population, the 100 percent ETE for the full EPZ increased by only 9 minutes, from 9:00 to 9:09. NRC guidance (CR-7002) indicates that emergency planning decisions should be based on the 90 percent ETEs. The recommended “update threshold” for the Dresden EPZ, based on population growth, is therefore 10 percent.

6.5.2 Roadway Impact

NRC guidance (CR-7002) also requires analysis of a “roadway impact” scenario. For this scenario, a major evacuation route is removed or reduced in capacity. Specifically, one of the 5 highest volume roadways is removed from service, or capacity is reduced by one lane (for a multi-lane, limited-access roadway such as an interstate highway). This scenario is specified as Summer Weekday, Normal Weather for the Full EPZ. For Dresden, the five highest-volume roadways for this scenario are listed below:

- I-80 eastbound (Joliet) – 7,750 vehicles
- US 6 northeast – 6,300 vehicles
- SR 113 southeast – 3,800 vehicles
- I-55 northbound – 3,000 vehicles
- SR 53 northbound – 2,900 vehicles

Since the highest volume roadway was a multi-lane highway (I-80 eastbound), the roadway impact tested was a closure of one lane of the highway. The lane closure did not cause significant re-routing of evacuees compared to the summer day scenario with no lane closure. The impact location is shown in Figure 6-3.

With the lane closure in place, the ETEs increased slightly from 4:35 (90 percent) and 9:00 (100 percent) to 4:41 (90 percent) and 9:00 (100 percent). Note that the increase ETEs are due to the bottleneck queue generated by the lane closure rather than evacuees taking alternate routes to avoid the queue. The traffic flow by link for the roadway impact scenario is also shown in Figure 6-3.

6.6 Performance Metrics for Simulation Model

The performance of VISSIM is assessed using standard metrics, consistent with the guidance provided in CR-7002. Table 6-4 provides a summary of simulation parameters for Winter Day Normal Weather scenario for the full EPZ. Figure 6-4 illustrates the number of vehicles on the network over the course of the simulation, while Figure 6-5 compares the rate of vehicles loading onto the network to the frequency of departures. Both of these figures indicate that the rate of vehicles exiting the EPZ keeps pace with the rate of departures for the first several hours, but then declines as most remaining vehicles encounter queuing and congestion.

The parameters in Table 6-4 include an average travel speed for evacuating vehicles of 20.65 miles per hour, which indicates that traffic is encountering significant congestion during much of the simulation. The average travel time of 8.4 hours reflects travel to the designated reception centers, rather than the travel time to exit the EPZ.

6.7 ETE for Transit Dependent Special Facilities and Schools

The ETE for transit dependent members of the general public is estimated based on the assumption of two sequential set of bus runs from Channahon, Morris, Shorewood and Joliet. The first run would begin 90 minutes after the evacuation notice, allowing time for evacuees to prepare and to travel to designated pickup points. The time sequence would then proceed in the following steps:

- 30 minutes for the bus to traverse up to ten pickup points (2 miles) and load passengers (2:00)
- 40 minutes to travel out to reception center (8 miles @ 12 mph), 10 minutes to unload, 10 minutes to return (3:00)
- Repeat pickup (30 min) and travel out of EPZ (20 min). TOTAL = 3:50

Estimated evacuation times for special facilities, schools and daycares located in the EPZ are summarized in Tables 6-5 and 6-6. These times are shorter than the 90 percent and 100 percent ETEs for the general population. Facility-specific estimates are based on a three-step time sequence: (1) mobilization, (2) loading, and (3) travel out of the EPZ. Mobilization and loading times are generally the largest components. At nursing homes and assisted living facilities, each vehicle will require about 10 minutes to load, with two vehicles loading simultaneously. While some school buses may mobilize more quickly depending on specific local circumstances, it will generally require on the order of 120 minutes to contact drivers, provide them with instructions and deploy them to assigned schools. For travel time, average speeds were estimated for the anticipated evacuation route, based on the traffic simulation for the Winter Day scenario. The simplified stepwise methodology used to determine these estimates provides a typical evacuation time, rather than an upper bound 90 percent or 100 percent value.

Table 6-1: Evacuation Time Estimate Summary for Dresden Station EPZ

		Summer				Winter			
		Midweek Daytime		Weekend Daytime	Evening	Midweek Daytime		Weekend Daytime	Evening
Affected ERPAs	Scenario:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Weather:	Normal	Adverse	Normal	Normal	Normal	Adverse	Normal	Normal
90 Percent Evacuation of Affected Areas									
1,3,4	2-mile Zone	2:55	3:45	2:35	2:35	3:00	4:20	2:35	2:35
1,3,4,7,9,12	5-mile Zone	4:55	5:45	5:25	5:50	4:55	6:15	5:50	5:55
ALL	10-mile EPZ	4:35	5:25	4:30	4:45	5:15	6:35	4:45	5:10
1,3,4	2-mile Zone	4:30	5:10	3:30	3:30	4:30	5:30	3:30	3:30
1,3,4,7,9,12	5-mile Zone	6:30	7:10	6:45	7:05	6:25	7:25	7:05	7:05
ALL	10-mile EPZ	9:00	9:40	9:00	8:55	9:00	10:00	8:45	9:00

Table 6-2: Evacuation Time Estimates for Partial EPZ Scenarios (unstaged)

(a) 2-mile zone plus 5-mile downwind (90 percent ETE)

Affected ERPAs	Scenario: Weather:	Summer				Winter			
		Midweek Daytime	Weekend Daytime	Evening	Midweek Daytime	Weekend Daytime	Evening		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Normal	Adverse	Normal	Normal	Normal	Adverse	Normal	Normal
90 Percent Evacuation of 2-Mile Zone and 5 Miles Downwind									
1,3,4,7,9	N,NNW	5:00	5:40	4:30	4:40	5:00	6:00	5:15	5:05
1,3,4,7	NNE,NE	4:50	5:30	4:20	4:30	5:00	6:00	5:15	5:05
1,3,4	ENE-SSE	5:05	5:30	5:05	5:20	5:15	6:00	5:10	5:10
1,3,4,12	S-WSW	4:40	5:20	4:10	4:20	4:30	5:30	4:45	4:35
1,3,4,12,15	W	4:40	5:20	4:10	4:20	4:30	5:30	4:45	4:35
1,3,4,9,12,15	WNW	4:40	5:20	4:10	4:20	4:30	5:30	4:45	4:35
1,3,4,7,9,15	NW	5:00	5:40	4:30	4:40	5:00	6:00	5:15	5:05
100 Percent Evacuation of 2-Mile Zone and 5 Miles Downwind									
1,3,4,7,9	N,NNW	6:10	6:50	5:40	5:50	6:10	7:10	5:50	5:40
1,3,4,7	NNE,NE	6:00	6:40	5:30	5:40	6:10	7:10	5:50	5:40
1,3,4	ENE-SSE	6:00	6:40	5:45	5:50	6:10	7:10	5:35	5:30
1,3,4,12	S-WSW	5:50	6:30	5:20	5:30	5:40	6:40	5:20	5:10
1,3,4,12,15	W	5:50	6:30	5:20	5:30	5:40	6:40	5:20	5:10
1,3,4,9,12,15	WNW	5:50	6:30	5:20	5:30	5:40	6:40	5:20	5:10
1,3,4,7,9,15	NW	6:10	6:50	5:40	5:50	6:10	7:10	5:50	5:40

(b) 5-mile zone plus 10-mile downwind (90 percent ETE)

		Summer				Winter			
Affected ERPAs		Midweek Daytime		Weekend Daytime	Evening	Midweek Daytime		Weekend Daytime	Evening
	Scenario:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Weather:	Normal	Adverse	Normal	Normal	Normal	Adverse	Normal	Normal
90 Percent Evacuation of 5-Mile Zone and 10 Miles Downwind									
1,3,4,7,9,10,11,12,15,16	N,NNW	4:40	5:20	4:20	4:20	4:40	5:40	4:20	4:30
1,3,4,7,8,9,10,11,12,16	NNE	4:40	5:20	4:20	4:20	4:40	5:40	4:20	4:30
1,3,4,5,7,8,9,11,12	NE	4:40	5:20	4:20	4:20	4:40	5:40	4:20	4:30
1,2,3,4,5,7,8,9,12	ENE	4:40	5:20	4:20	4:20	4:40	5:40	4:20	4:30
1,2,3,4,5,6,7,8,9,12	E	4:40	5:20	4:20	4:20	4:40	5:40	4:20	4:30
1,2,3,4,5,6,7,9,12	ESE	4:40	5:20	4:20	4:20	4:40	5:40	4:20	4:30
1,2,3,4,6,7,9,12	SE	4:40	5:20	4:20	4:20	4:40	5:40	4:20	4:30
1,3,4,6,7,9,12,13	SSE,S	4:30	5:10	4:10	4:10	4:40	5:40	4:20	4:30
1,3,4,6,7,9,12,13,14	SSW	4:30	5:10	4:10	4:10	4:40	5:40	4:20	4:30
1,3,4,7,9,12,13,14	SW	4:30	5:10	4:10	4:10	4:40	5:40	4:20	4:30
1,3,4,7,9,12,13,14,15	WSW	4:30	5:10	4:10	4:10	4:40	5:40	4:20	4:30
1,3,4,7,9,12,14,15	W,WNW	4:40	5:20	4:20	4:20	4:40	5:40	4:20	4:30
1,3,4,7,9,12,15,16	NW	4:40	5:20	4:20	4:20	4:40	5:40	4:20	4:30

(c) 5-mile zone plus 10-mile downwind (100 percent ETE)

Affected ERPAs	Scenario: Weather:	Summer				Winter			
		Midweek Daytime		Weekend Daytime	Evening	Midweek Daytime		Weekend Daytime	Evening
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Normal	Adverse	Normal	Normal	Normal	Adverse	Normal	Normal
100 Percent Evacuation of 5-Mile Zone and 10 Miles Downwind									
1,3,4,7,9,10,11,12,15,16	N,NNW	9:00	9:40	8:40	8:40	9:00	10:00	8:40	8:50
1,3,4,7,8,9,10,11,12,16	NNE	9:00	9:40	8:40	8:40	9:00	10:00	8:40	8:50
1,3,4,5,7,8,9,11,12	NE	9:00	9:40	8:40	8:40	9:00	10:00	8:40	8:50
1,2,3,4,5,7,8,9,12	ENE	9:00	9:40	8:40	8:40	9:00	10:00	8:40	8:50
1,2,3,4,5,6,7,8,9,12	E	9:00	9:40	8:40	8:40	9:00	10:00	8:40	8:50
1,2,3,4,5,6,7,9,12	ESE	9:00	9:40	8:40	8:40	9:00	10:00	8:40	8:50
1,2,3,4,6,7,9,12	SE	9:00	9:40	8:40	8:40	9:00	10:00	8:40	8:50
1,3,4,6,7,9,12,13	SSE,S	8:50	9:30	8:30	8:30	9:00	10:00	8:40	8:50
1,3,4,6,7,9,12,13,14	SSW	8:50	9:30	8:30	8:30	9:00	10:00	8:40	8:50
1,3,4,7,9,12,13,14	SW	8:50	9:30	8:30	8:30	9:00	10:00	8:40	8:50
1,3,4,7,9,12,13,14,15	WSW	8:50	9:30	8:30	8:30	9:00	10:00	8:40	8:50
1,3,4,7,9,12,14,15	W,WNW	9:00	9:40	8:40	8:40	9:00	10:00	8:40	8:50
1,3,4,7,9,12,15,16	NW	9:00	9:40	8:40	8:40	9:00	10:00	8:40	8:50

Table 6-3: Evacuation Time Estimates for Partial EPZ Scenarios (staged)

Affected ERPAs	Scenario: Weather:	Summer				Winter			
		Midweek Daytime		Weekend Daytime	Evening	Midweek Daytime		Weekend Daytime	Evening
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Normal	Adverse	Normal	Normal	Normal	Adverse	Normal	Normal
90 Percent Evacuation of 2-Mile Zone, then 5 Miles Downwind STAGED									
1,3,4,7,9	N,NNW	5:45	6:25	5:15	5:25	5:45	6:45	6:00	5:50
1,3,4,7	NNE,NE	5:35	6:15	5:05	5:15	5:45	6:45	6:00	5:50
1,3,4	ENE-SSE*	5:05	6:15	5:05	5:20	5:15	6:45	5:10	5:10
1,3,4,12	S-WSW	5:25	6:05	4:55	5:05	5:15	6:15	5:30	5:20
1,3,4,12,15	W	5:25	6:05	4:55	5:05	5:15	6:15	5:30	5:20
1,3,4,9,12,15	WNW	5:25	6:05	4:55	5:05	5:15	6:15	5:30	5:20
1,3,4,7,9,15	NW	5:45	6:25	5:15	5:25	5:45	6:45	6:00	5:50
100 Percent Evacuation of 2-Mile Zone, then 5 Miles Downwind STAGED									
1,3,4,7,9	N,NNW	6:35	7:15	6:05	6:15	6:35	7:35	6:15	6:05
1,3,4,7	NNE,NE	6:25	7:05	5:55	6:05	6:35	7:35	6:15	6:05
1,3,4	ENE-SSE*	6:00	7:05	5:45	5:50	6:10	7:35	5:35	5:30
1,3,4,12	S-WSW	6:15	6:55	5:45	5:55	6:05	7:05	5:45	5:35
1,3,4,12,15	W	6:15	6:55	5:45	5:55	6:05	7:05	5:45	5:35
1,3,4,9,12,15	WNW	6:15	6:55	5:45	5:55	6:05	7:05	5:45	5:35
1,3,4,7,9,15	NW	6:35	7:15	6:05	6:15	6:35	7:35	6:15	6:05

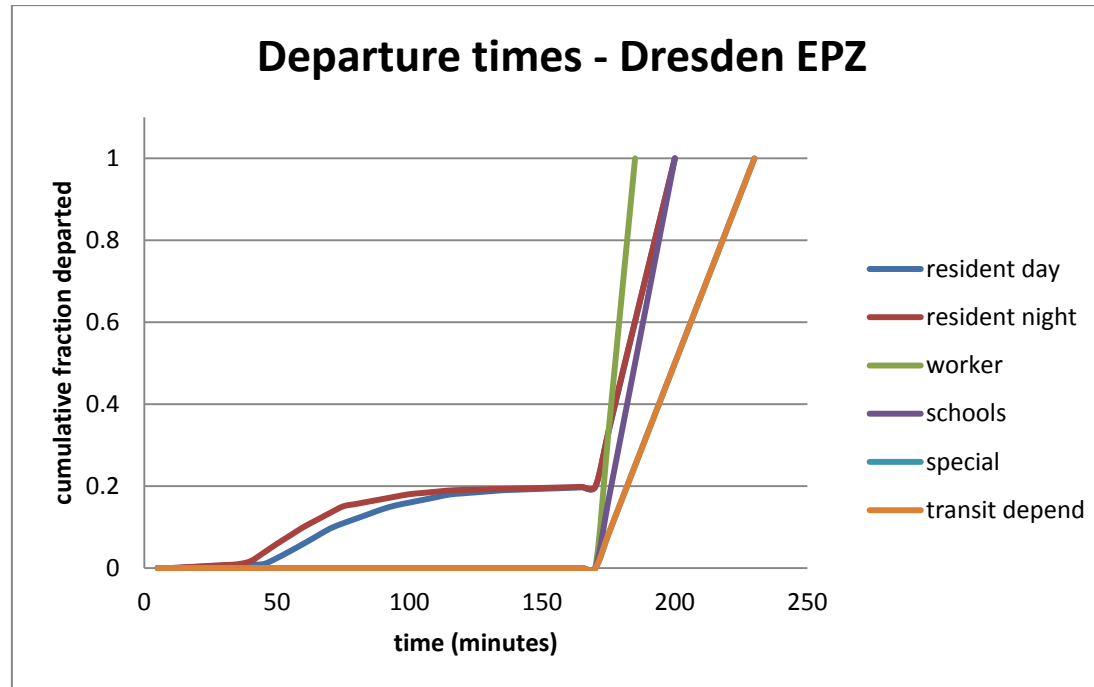


Figure 6-1. Departure Curves for Stage 2 Zones, Dresden EPZ

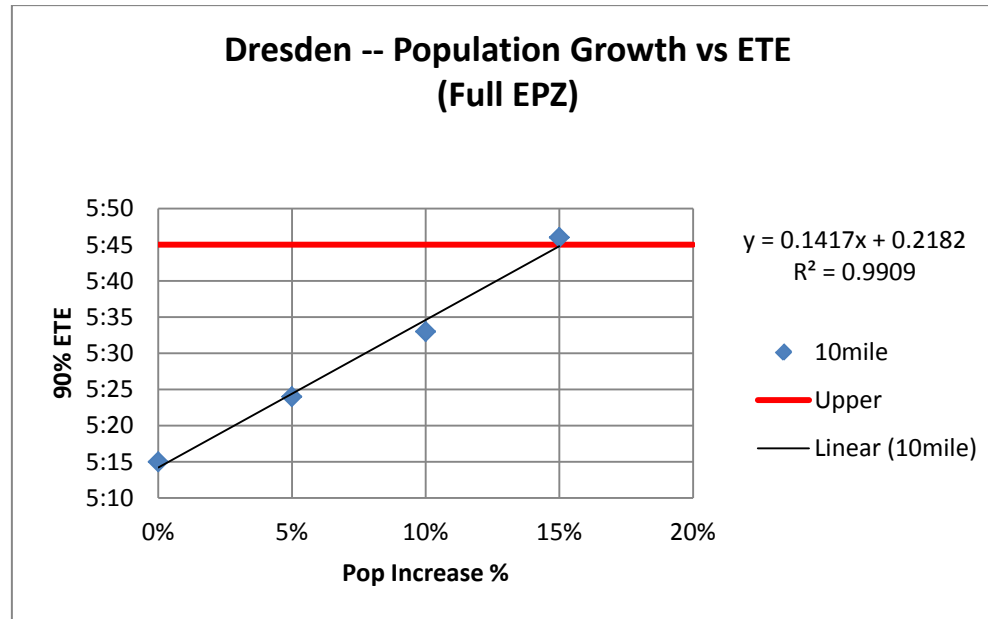
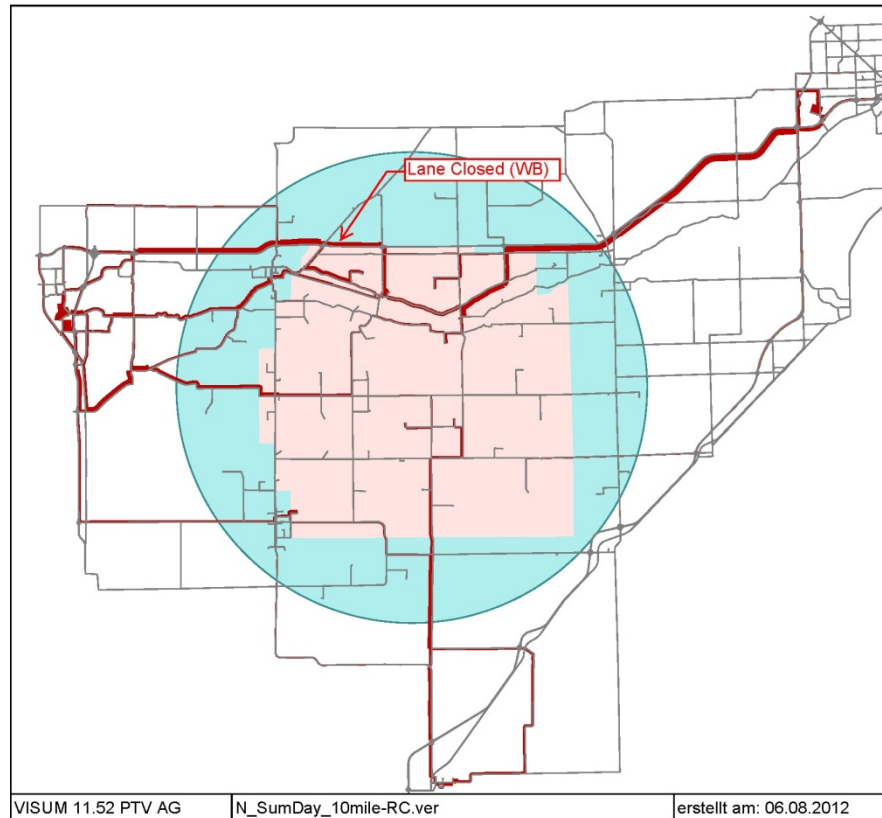


Figure 6-2. Dresden Sensitivity of ETE to Population Growth (Winter Weekday, Normal Weather, Full EPZ)



**Figure 6-3. Dresden Predicted Traffic Volume by Link with I-80
EB Link Removed (Summer Weekday, Normal Weather, Full EPZ)**

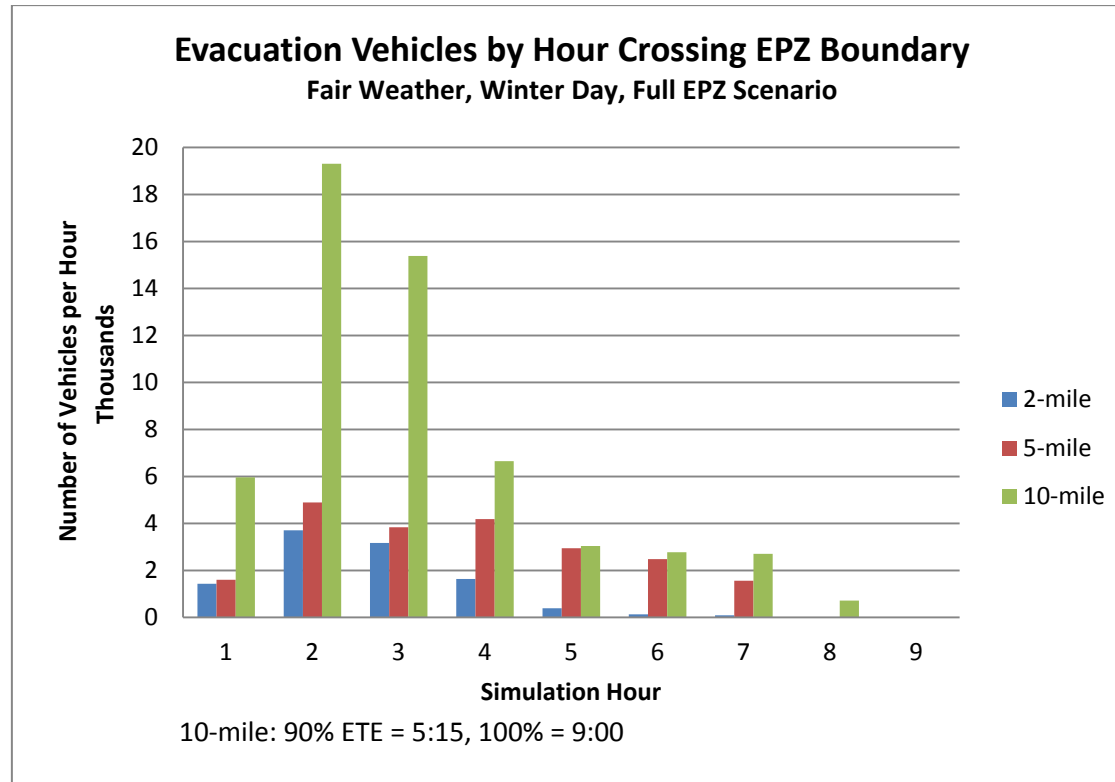


Figure 6-4. Time Distribution of Vehicles on the Network (Full 10-mile EPZ, Winter Weekday, Normal Weather)

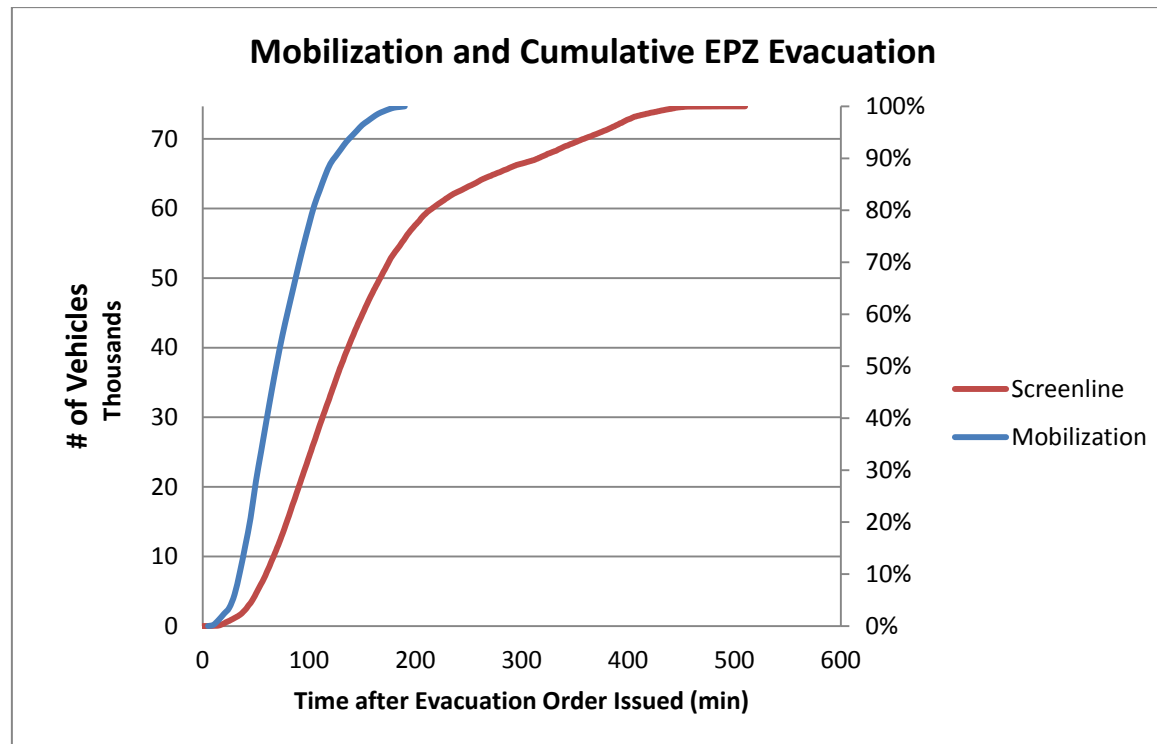


Figure 6-5. Comparison of Vehicle Mobilization and Departure Rates (total vehicles 74,681)

Table 6-4: Summary of Network Performance (Full 10-mile EPZ, Winter Weekday, Normal Weather)

Network Parameter	All Vehicles	BG/Shadow	Evacuation
Avg Delay (s)	9,995	2,861	12,565
Avg Stop Delay (s)	4,399	1,476	5,452
Avg # of Stops	1,965	466	2,505
Avg Speed (mph)	21.67	29.19	20.65
Avg Travel Time (hr)	6.51	2.42	8.44
# of Completed Trips	63,142	20,236	42,906

Table 6-5: ETE for Special Facilities, Dresden Station EPZ (Full 10-mile EPZ, Winter Weekday, Normal Weather)

Facility	Population	Vehicles		Mobilization Time (min)	Loading Time (min)	Distance to EPZ Boundary (mi)	Outbound Travel Speed (mph)	Travel Time to EPZ Boundary (min)	ETE (min)
		#	Type						
Morris Hospital	539	12	Amb/Van	120	60	5.5	58.10	6	186
Walnut Grove Health Care	183	12	Amb/Van	90	30	5.5	58.10	6	126
Morris Healthcare & Rehab Center	202	14	Amb/Van	90	30	5.5	58.10	6	126
Illinois Valley Industries	75	3	Amb/Van	90	30	5.5	58.10	6	126
Cambridge Home	10	1	Amb/Van	60	15	5.5	51.30	6	81
Troy Twp Sr Citizens Ctr	28	2	Amb/Van	60	15	5.5	51.30	6	81
Timbers of Shorewood	125	5	Amb/Van	60	15	1	51.30	1	76
Liberty Place (Cherokee Ridge)	10	1	Amb/Van	60	15	9.5	50.09	11	86
Park Place (Channahon)	11	1	Amb/Van	60	15	9.5	50.09	11	86
Embassy Care Center	232	8	Amb/Van	90	30	1.5	41.25	2	122

Table 6-6: ETE for Schools in Dresden Station EPZ (Full 10-mile EPZ, Winter Weekday, Normal Weather)

Facility	Population	Vehicles		Mobilization Time (min)	Loading Time (min)	Distance to EPZ Boundary (mi)	Outbound Travel Speed (mph)	Travel Time to EPZ Boundary (min)	ETE (min)
		#	Type						
Minooka Elementary School	674	11	Bus	120	60	10	59.19	10	190
Minooka Intermediate	932	15	Bus	120	60	9.5	59.19	10	190
Minooka Jr High School	1,007	16	Bus	120	60	9	59.19	9	189
Minooka Sr High School	2,746	45	Bus	120	60	9	59.19	9	189
Minooka Primary (PK-K)	367	6	Bus	120	60	9	59.19	9	189
Aux Sable Elementary	709	12	Bus	120	60	11	59.19	11	191
Saratoga Elementary	847	14	Bus	120	60	4.5	58.10	5	185
Grundy Area Voc. School	639	10	Bus	120	60	5.5	58.10	6	186
Immaculate Conception Sch.	242	4	Bus	120	60	5.5	58.10	6	186
Morris High School	1,059	17	Bus	120	60	5.5	58.10	6	186
Shabbona Middle School	412	7	Bus	120	60	5.5	58.10	6	186
White Oak Elementary	936	15	Bus	120	60	5.5	58.10	6	186
Braceville Elementary	196	3	Bus	120	60	2.5	33.00	5	185
Coal City Elementary	364	6	Bus	120	60	4	39.51	6	186
Coal City High School	724	12	Bus	120	60	4	39.51	6	186
Coal City Intermediate	350	6	Bus	120	60	4	39.51	6	186
Coal City Middle School	542	9	Bus	120	60	4.5	39.51	7	187
Coal City Early Childhood	390	6	Bus	120	60	4.5	39.51	7	187
Channahon Jr High	430	7	Bus	120	60	9.5	50.09	11	191
NB Galloway Elementary	560	9	Bus	120	60	9.5	50.09	11	191
Three Rivers School	423	7	Bus	120	60	9.5	50.09	11	191

Table 6-6: ETE for Schools in Dresden Station EPZ (Full 10-mile EPZ, Winter Weekday, Normal Weather)

Facility	Population	Vehicles		Mobilization Time (min)	Loading Time (min)	Distance to EPZ Boundary (mi)	Outbound Travel Speed (mph)	Travel Time to EPZ Boundary (min)	ETE (min)
		#	Type						
Pioneer Path School	343	6	Bus	120	60	9.5	50.09	11	191
Heritage Trail School	560	9	Bus	120	60	1.5	39.83	2	182
Troy Craughwell School	570	9	Bus	120	60	1.5	39.83	2	182
Crossroads Elementary	668	11	Bus	120	60	1	25.52	2	182
Holy Family School	376	6	Bus	120	60	1	25.52	2	182
Joliet Christian School	88	1	Bus	60	15	1.5	25.52	4	79
Shorewood Elementary	572	9	Bus	120	60	5.5	51.30	6	186
Troy Middle School	994	16	Bus	120	60	2	39.83	3	183
Oremic Intermediate School	1,067	17	Bus	120	60	5.5	51.30	6	186
Hofer Elementary	462	8	Bus	120	60	5.5	51.30	6	186
Trinity Christian School + Pre	602	10	Bus	120	60	1.5	25.52	4	184
Lewis University	53	0	Bus	60	15	5.5	51.30	6	81
Walnut Trails Elementary	546	9	Bus	120	60	5.5	51.30	6	186
Elwood Community Consol.	482	8	Bus	120	60	3	48.26	4	184
Bruning Elementary	279	5	Bus	120	60	1.5	41.25	2	182
LJ Stevens Middle School	444	7	Bus	120	60	1.5	41.25	2	182
Trinity Services	28	0	Bus	60	15	1.5	41.25	2	77
Wilmington High School	527	9	Bus	120	60	1.5	41.25	2	182
St Rose School	160	3	Bus	90	30	1.5	41.25	2	122
Reed Custer Intermediate	564	9	Bus	120	60	3	39.51	5	185
Reed Custer High School	661	11	Bus	120	60	3	39.51	5	185

7. Traffic Control and Evacuation Confirmation

7.1 General

Evacuation simulation results have been reviewed to assess access control locations, traffic management locations and recommendations for the Dresden Station EPZ. Traffic control plans for each county were reviewed to confirm that traffic management will be implemented at key intersections on all designated evacuation routes. Predicted queuing at high-volume intersections is summarized in Table 7-1. Only three of those intersections are located inside the EPZ. (Volume increases as traffic flows downstream, since the traffic is directed to a small number of reception centers.) The average queue length is significant (240 feet) at one signalized intersection in Channahon. The longest average queue (460 feet) is predicted at a signalized intersection outside of the EPZ in Joliet.

Another perspective on predicted traffic flow is provided in Appendix D by the maps of average travel speed by hour on road network links. These maps illustrate the slow travel during the first three hours in populated areas, as departing traffic converges on major evacuation routes. During hours 4 and 5, after most vehicles have initiated evacuation, congestion persists and intensifies on roadways in the area west of Joliet, with smaller pockets of slow travel around Wilmington and Morris.

7.1 Evacuation Access Control Locations

Access control measures were not specifically addressed in the conduct of this study. Background traffic within the EPZ was not found to be a significant contributor to traffic congestion during the early stages of evacuation.

7.2 Traffic Management Locations and Tactics to Facilitate Evacuation

The traffic simulation results for Dresden indicate that traffic flow may encounter significant congestion inside the EPZ. The traffic flow maps provided in Appendix D and the data in Table 7-1 indicate one signalized intersection on U.S. 6 in Channahon where major queuing is predicted, and a second intersection outside the EPZ in south Joliet. These locations warrant attention to assess whether routing alternatives or proactive traffic management could achieve significant reduction in ETES.

Table 7-1: Predicted Queues at High-Volume Intersections on the Road Network

Intersection Name	City/Town	EPZ (IN or OUT)	Control Type	Average Queue (feet)	Volume
S LaGrange Ave (US 45) & 179th St	Orland Hills	OUT	Signalized	77.43	34,102
I-80 EB merge with Raymond Ave	Joliet	OUT	Uncontrolled	172.74	18,364
I-80 EB exit to IL 53	Joliet	OUT	Uncontrolled	173.10	18,322
I-80 EB exit ramp & Richards St	Joliet	OUT	Signalized	<20	18,132
I-80 WB exit & S. LaGrange Rd (US 45)	Mokena	OUT	Signalized	<20	17,644
I-55 SB entrance from IL 47	Dwight	OUT	Uncontrolled	<20	16,348
I-55 SB exit ramp & W Mazon Ave	Dwight	OUT	Two-way stop	<20	16,338
I-80 EB entrance from Richards St	Joliet	OUT	Uncontrolled	<20	16,080
I-80 EB exit ramp & S Briggs St	Joliet	OUT	Signalized	460.24	15,946
Channahon Rd (US 6) & Empress Rd	Channahon	IN	Signalized	<20	15,136
I-80 EB entrance from S Briggs St	Joliet	OUT	Uncontrolled	<20	14,914
I-80 EB exit ramp & Lincoln Hwy (US 30)	Joliet	OUT	Signalized	140.19	14,912
I-57 SB exit ramp & IL 50	Kankakee	OUT	Signalized	<20	14,504
I-80 EB exit ramp & S LaGrange Rd (US 45)	Mokena	OUT	Signalized	74.77	14,160
I-80 EB entrance from Empress/Houbolt Rd	Channahon	IN	Uncontrolled	<20	14,142
I-80 EB exit to S Larkin Ave (IL 7)	Joliet	OUT	Uncontrolled	113.71	14,126
I-55 SB exit ramp & E Prairie St	Odell	OUT	Two-way stop	<20	13,972
I-55 SB entrance from IL 53	Gardner	OUT	Two-way yield	<20	13,084
Channahon Rd (US 6) & McClintock Rd	Channahon	IN	Signalized	238.91	12,848
E/W Jeffery St & Southeast Ave	Kankakee	OUT	All-way stop	202.36	12,752

8. References

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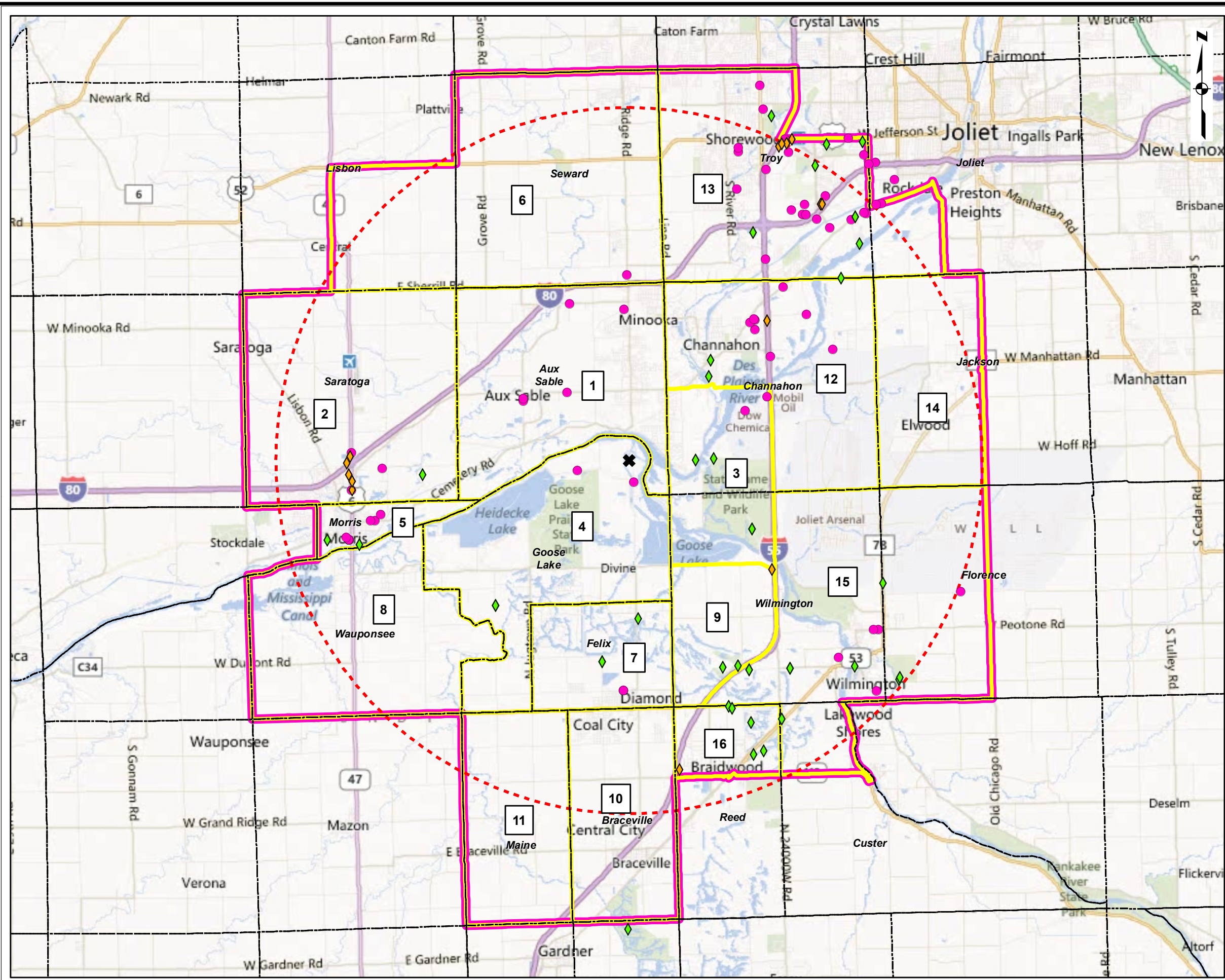
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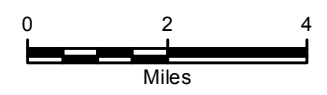


Appendix A

Transient and Special Facility Population Data



- Legend**
- Facility Type**
- WORK
 - HOTELS
 - RECREATION
- Legend**
- Dresden Plant
 - 10 Miles from Plant
 - Township Boundary
 - Sub-Area Boundary
 - EPZ Boundary



ARCADIS

EXELON GENERATION

**DRESDEN GENERATING
STATION POPULATION
DISTRIBUTION - SUB-AREAS**

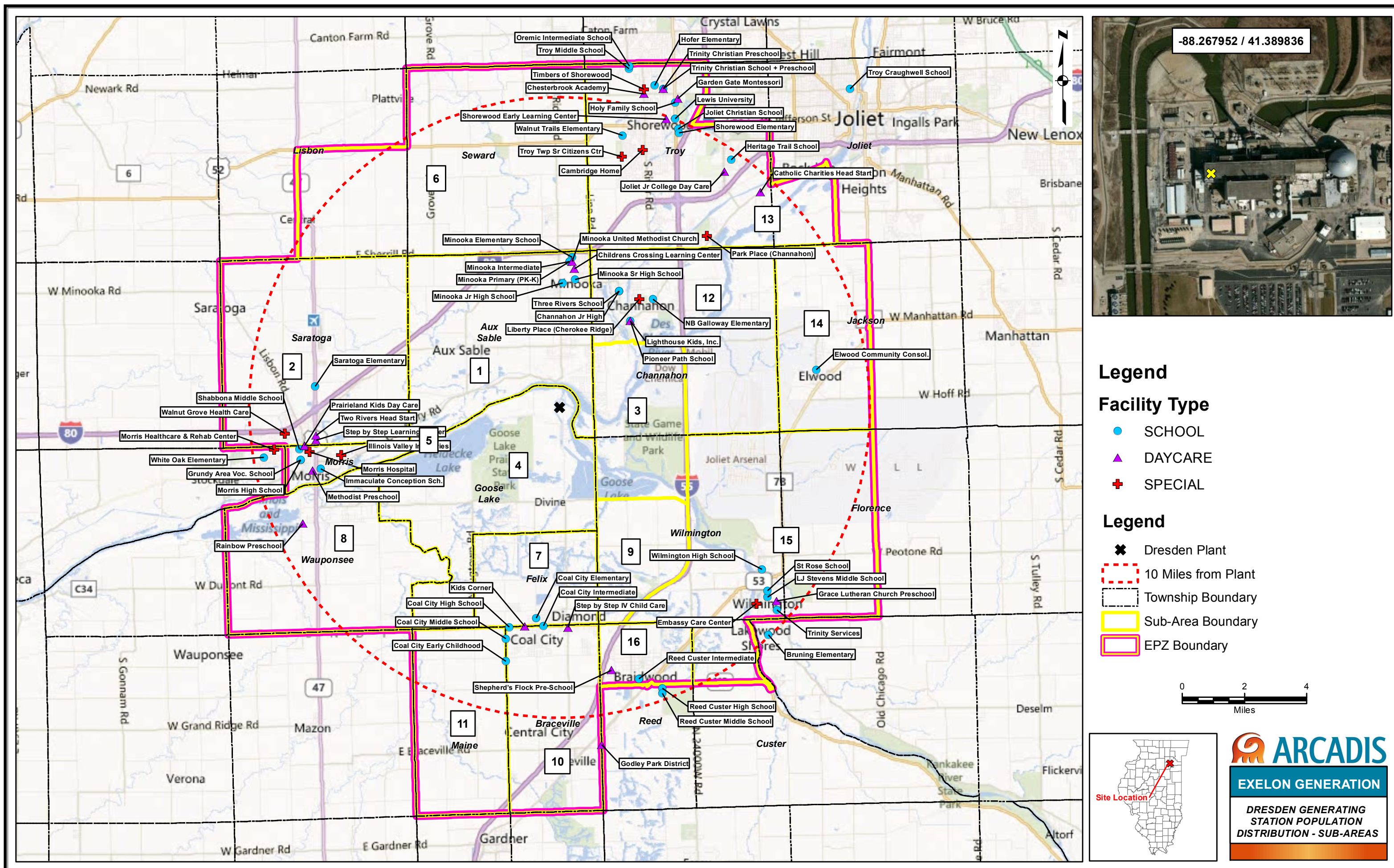


Table A-1. Major Employers in Dresden EPZ

Facility	ERPA	Population						Vehicles					
		week-day	Winter week-night	week-end	week-day	Summer week-night	week-end	week-day	Winter week-night	week-end	week-day	Summer week-night	week-end
INEOS Nova	3	135	15	0	135	15	0	135	15	0	135	15	0
FLINT HILLS RESOURCES	12	325	50	25	325	50	25	325	50	25	325	50	25
Dow Chemical Co	3	110	30	10	110	30	10	110	30	10	110	30	10
Exxon Mobil Corp	12	350	200	50	350	200	50	350	200	50	350	200	50
Kemlite Co Inc	12	350	0	350	350	0	350	350	0	350	350	0	350
Loders Croklaan	3	250	75	0	250	75	0	250	75	0	250	75	0
Metalstamp Inc	12	50	0	0	50	0	0	50	0	0	50	0	0
Northern Illinois Steel Supply	12	47	5	0	47	5	0	47	5	0	47	5	0
Packard Transport Inc	12	50	0	0	50	0	0	50	0	0	50	0	0
Romar Cabinet & Top Co	12	90	5	5	90	5	5	90	5	5	90	5	5
DOKA USA LTD	12	50	0	0	50	0	0	50	0	0	50	0	0
Chicago Aerosols, LLC	7	60	15	0	60	15	0	60	15	0	60	15	0
EVIRON INDUSTRIES	7	70	10	0	70	10	0	70	10	0	70	10	0
Stepan Co (Chemical)	12	350	100	0	350	100	0	350	100	0	350	100	0
Caterpillar Tractor	13	1350	150	0	1350	150	0	1350	150	0	1350	150	0
ECO LAB	13	250	150	0	250	150	0	250	150	0	250	150	0
Johns-Manville Residential	13	85	15	0	85	15	0	85	15	0	85	15	0
Rovanco Piping Systems	13	60	10	0	60	10	0	60	10	0	60	10	0
INTERSTATE WAREHOUSING	13	50	0	0	50	0	0	50	0	0	50	0	0
INDICOM ELECTRIC CO INC	13	60	0	0	60	0	0	60	0	0	60	0	0
MEADE ELECTRIC CO INC	13	220	30	0	220	30	0	220	30	0	220	30	0
HOMAX PRODUCTS	13	100	10	0	100	10	0	100	10	0	100	10	0
COVIDIAN	13	90	9	0	90	9	0	90	9	0	90	9	0
DIETRICH METAL FRAMING	13	95	10	0	95	10	0	95	10	0	95	10	0
VOLVO PARTS NORTH AMERICAN	13	95	10	0	95	10	0	95	10	0	95	10	0
A&R TRANSPORT	13	100	15	15	100	15	15	100	15	15	100	15	15
MADISON WAREHOUSE	13	50	10	0	50	10	0	50	10	0	50	10	0
JOLIET AREA COMMUNITY HOSPICE	13	80	40	30	80	40	30	80	40	30	80	40	30
USF HOLLAND INC	13	100	20	20	100	20	20	100	20	20	100	20	20
NUMARK CREDIT UNION	13	50	0	0	50	0	0	50	0	0	50	0	0
National Guard - Infantry	13	50	25	100	50	25	100	50	25	100	50	25	100
CORNERSTONE SERVICES INC	13	80	20	0	80	20	0	80	20	0	80	20	0

Table A-1. Major Employers in Dresden EPZ

Facility	ERPA	Population						Vehicles					
		week-day	Winter week-night	week-end	week-day	Summer week-night	week-end	week-day	Winter week-night	week-end	week-day	Summer week-night	week-end
U.S. Cold Storage	1	80	12	8	80	12	8	80	12	8	80	12	8
MACY'S LOGISTICS & OPERATIONS	6	180	40	20	180	40	20	180	40	20	180	40	20
EXEL LOGISTICS	1	70	15	0	70	15	0	70	15	0	70	15	0
AKZO Nobel Surface Chemistry	1	120	30	0	120	30	0	120	30	0	120	30	0
Aux Sable Liquid Products LP	1	55	5	0	55	5	0	55	5	0	55	5	0
Banner Equipment Company	2	50	0	0	50	0	0	50	0	0	50	0	0
Dresden Nuclear Station	4	750	150	60	750	150	60	600	150	60	600	150	60
Equistar Chemicals, LP	1	500	100	50	500	100	50	500	100	50	500	100	50
Interstate Wire Corp	2	40	10	10	40	10	10	40	10	10	40	10	10
Morris Herald	2	53	4	4	53	4	4	53	4	4	53	4	4
Northwestern Corp	5	50	0	0	50	0	0	50	0	0	50	0	0
Reichhold Chemical Inc	4	65	35	5	65	35	5	65	35	5	65	35	5
Sponge Cushion Corp	5	80	22	0	80	22	0	80	22	0	80	22	0
GRUNDY COUNTY COURTHOUSE	5	70	0	0	70	0	0	70	0	0	70	0	0
ILLINOIS VALLEY INDUSTRIES INC	5	60	5	5	60	5	5	60	5	5	60	5	5
GRUNDY COUNTY HEALTH DEPT	5	120	5	5	120	5	5	120	5	5	120	5	5
GRUNDY BANK	5	65	5	5	65	5	5	65	5	5	65	5	5
FIRST MIDWEST BANK	5	50	5	5	50	5	5	50	5	5	50	5	5
SAPA EXTRUSIONS INC	1	120	20	20	120	20	20	120	20	20	120	20	20
MAHONEY ENVIRONMENTAL	13	85	10	0	85	10	0	85	10	0	85	10	0
Brakur Custom Cabinetry Inc	13	180	0	0	180	0	0	180	0	0	180	0	0
R R Brink Locking Systems Inc	13	60	10	10	60	10	10	60	10	10	60	10	10
Dow Chemical Co	15	120	20	20	120	20	20	120	20	20	120	20	20
Precision Components, Inc	15	65	15	0	65	15	0	65	15	0	65	15	0
RON TIRAPPELLI SUZUKI	13	45	25	10	45	25	10	45	25	10	45	25	10
EXPERT OPTICS INC	13	85	15	0	85	15	0	85	15	0	85	15	0
ACTION FOR KIDS	13	50	0	0	50	0	0	50	0	0	50	0	0
RESIDENTIAL DESIGN INC	13	50	0	0	50	0	0	50	0	0	50	0	0
TRINITY SERVICES ISLAND CITY	15	65	0	0	65	0	0	65	0	0	65	0	0
OPERATING ENGINEERS APPRNTCSHP	15	60	0	0	60	0	0	60	0	0	60	0	0
UNITED STATES COLD STORAGE	15	45	5	0	45	5	0	45	5	0	45	5	0

Table A-2. Recreation Areas and Facilities in Dresden EPZ

		Population						Vehicles							
		winter			summer			winter			summer				
Facility	Sub-Area	week-day	week-night	week-end	week-day	week-night	week-end	week-day	week-night	week-end	week-day	week-night	week-end	Occ Fac	Adjust
Grundy Rod & Gun Club	2	25	0	50	200	100	300	17	0	33	133	67	200	1.5	1
McKinley Woods Forest Preserve	3	5	0	30	50	0	50	2	0	12	20	0	20	2.5	1
Gebhard Woods State Park	5	100	0	600	600	25	1000	40	0	240	240	10	400	2.5	1
William G Stratton State Park	5	20	0		300	0	500	8	0	0	120	0	200	2.5	1
Big Basin Marina	12	100	100	180	360	360	360	40	40	72	144	144	144	2.5	1
Channahon Community Park District	12	50	0	200	600	0	875	20	0	80	240	0	350	2.5	1
Channahon Lanes	12	90	112.5	150	60	90	90	60	75	100	40	60	60	1.5	1
Illinois & Michigan Canal State Park	12	180	60	560	790	90	1090	72	24	224	316	36	436	2.5	1
Hollywood Casino	13	900	3000	4500	1800	3000	4500	600	2000	3000	1200	2000	3000	1.5	1
Hammel Woods Forest Preserve	13	10	0	30	40	0	50	4	0	12	16	0	20	2.5	1
Inwood Golf Course and Recreation Area	13	90	90	240	150	90	240	60	60	160	100	60	160	1.5	1
Leisure Lakes Family Resort	13	50	50	125	300	300	300	20	20	50	120	120	120	2.5	1
Challenge Park Extreme	13	375	0	1000	750	750	1000	150	0	400	300	300	400	2.5	1
Joliet Splash Station Water Park	13	0	0	0	500	750	1000	0	0	0	200	300	400	2.5	1
Lower Rock Run Forest Preserve	13	45	45	75	45	45	75	30	30	50	30	30	50	1.5	1
Galowich YMCA	13	150	112.5	112.5	150	112.5	112.5	100	75	75	100	75	75	1.5	1
Jefferson Square Mall plus	13	900	1350	2700	750	1200	2400	510	765	1530	425	680	1360	1.5	0.85
Braidwood Recreational Club (non camping)	16	18	0	25	798	0	1140	12	0	17	532	0	760	1.5	1
Braidwood Recreational Club (camp)	16	0	0	0	300	300	300	0	0	0	100	100	100	3	1
Shadow Lakes	16	0	0	0	1250	0	1785	0	0	0	833	0	1190	1.5	1
Wilmington Recreation Area Club(non camping)	15	7	0	10	105	0	150	5	0	7	70	0	100	1.5	1
Wilmington Recreation Area Club(camping)	15	0	0	0	300	300	300	0	0	0	100	100	100	3	1
Area #1 Outdoor Club	9	14	0	20	70	0	100	9	0	13	47	0	67	1.5	1
Cinder Ridge Golf Course & Driving Range	9	30	0	43	68	0	97	20	0	29	45	0	65	1.5	1
Fossil Rock Recreation Area (non camping)	15	0	0	0	14	0	20	0	0	0	9	0	13	1.5	1

Table A-2. Recreation Areas and Facilities in Dresden EPZ

Facility	Sub-Area	Population						Vehicles						Occ Fac	Adjust
		week-day	winter week-night	week-end	week-day	summer week-night	week-end	week-day	winter week-night	week-end	week-day	summer week-night	week-end		
Fossil Rock Recreation Area (camping)	15	0	0	0	948	948	948	0	0	0	316	316	316	3	1
Lake Point Club	9	42	0	60	756	0	1080	28	0	40	504	0	720	1.5	1
Will County Sportsmen's Club	15	35	0	50	140	0	200	23	0	33	93	0	133	1.5	1
New Lenox Sportsmen's Club	15	7	0	10	210	0	300	5	0	7	140	0	200	1.5	1
Boy Scouts of America (non camping)	4	0	0	0	280	0	400	0	0	0	187	0	267	1.5	1
Boy Scouts of America (camping)	4	0	0	0	600	600	600	0	0	0	200	200	200	3	1
Des Plaines Conservation Area (non camping)	3	175	0	250	210	0	300	117	0	167	140	0	200	1.5	1
Des Plaines Conservation Area(camping)	3	0	0	0	66	66	66	0	0	0	22	22	22	3	1
Midewin National Tall Grass Prairie	15	35	0	50	18	0	25	23	0	33	12	0	17	1.5	1
Three Rivers Marina	3	7	0	10	56	0	80	5	0	7	37	0	53	1.5	1
Wilmington Island Park District	15	18	0	25	350	0	500	12	0	17	233	0	333	1.5	1
CECO Recreation Cluc	7	35	0	50	315	0	450	23	0	33	210	0	300	1.5	1
Coal City Area Club (non camping)	7	0	0	0	70	0	100	0	0	0	47	0	67	1.5	1
Coal City Area Club(camping)	7	0	0	0	300	300	300	0	0	0	100	100	100	3	1
Mazonia State Fish & Wildlife Area	10	70	0	100	1750	0	2500	47	0	67	1167	0	1667	1.5	1
Forsythe Woods Forest Preserve (non camping)	15	18	0	25	109	0	155	12	0	17	72	0	103	1.5	1
Forsythe Woods Forest Preserve (camping)	15	0	0	0	27	27	27	0	0	0	9	9	9	3	1
shopping district Minooka	1	375	450	600	300	375	450	188	225	300	150	188	225	1.5	0.75
shopping district Morris 47	2	900	1125	1500	600	900	1200	450	563	750	300	450	600	1.5	0.75
shopping district Shorewood 59	13	900	1350	1800	900	1125	1500	510	765	1020	510	638	850	1.5	0.85

Table A-3. Hotels and Motels in Dresden EPZ

Facility	Sub-Area	units	staff	Population			Vehicles		
				week-day	week-night	week-end	week-day	week-night	week-end
Holiday Inn Express	2	60	3	93	93	93	63	63	63
Morris Comfort Inn	2	50	3	78	78	78	53	53	53
Morris Motel	2	32	2	50	50	50	34	34	34
Park Motel	2	24	1	37	37	37	25	25	25
Super 8 Motel	2	59	3	91	91	91	62	62	62
Knights Inn	9	34	2	53	53	53	36	36	36
Manor Motel	12	77	4	119	119	119	81	81	81
Best Budget Inn	13	103	5	160	160	160	108	108	108
Elks Motel	13	30	2	47	47	47	32	32	32
Fairfield Inn	13	64	3	99	99	99	67	67	67
Hampton Inn	13	89	4	138	138	138	93	93	93
Ramada Inn Ltd	13	70	4	109	109	109	74	74	74
Townplace Suites	13	113	6	175	175	175	119	119	119
Empress Casino Hotel	13	101	5	157	157	157	106	106	106
Wingate	13	81	4	126	126	126	85	85	85
Best Western	13	62	3	96	96	96	65	65	65
Chicago Days Inn Joliet	13	117	6	181	181	181	123	123	123
Sun Motel	16	45	2	70	70	70	47	47	47

Table A-4. Schools in Dresden EPZ

School	Sub Area	student	staff	bus	van
Minooka Elementary School	1	607	67	11	
Minooka Intermediate	1	839	93	15	
Minooka Jr High School	1	906	101	16	
Minooka Sr High School	1	2471	275	45	
Aux Sable Elementary	1	638	71	12	
Saratoga Elementary	2	762	85	14	
Grundy Area Voc. School	5	575	64	10	
Immaculate Conception Sch.	5	218	24	4	
Morris High School	5	953	106	17	
Shabbona Middle School	5	371	41	7	
White Oak Elementary	5	842	94	15	
Coal City Elementary	7	328	36	6	
Braceville Elementary	10	176	20	3	
Coal City High School	10	652	72	12	
Coal City Intermediate	10	315	35	6	
Coal City Middle School	10	488	54	9	
Coal City Early Childhood	10	351	39	6	
Channahon Jr High	12	387	43	7	
NB Galloway Elementary	12	504	56	9	
Three Rivers School	12	381	42	7	
Pioneer Path School	12	309	34	6	
Heritage Trail School	13	504	56	9	
Troy Craughwell School	13	513	57	9	
Crossroads Elementary	13	601	67	11	
Holy Family School	13	338	38	6	
Joliet Christian School	13	79	9	1	1
Shorewood Elementary	13	515	57	9	
Troy Middle School	13	895	99	16	
Oremic Intermediate School	13	960	107	17	
Hofer Elementary	13	416	46	8	
Trinity Christian School + Preschool	13	542	60	10	
Lewis University	13	48	5	0	2
Elwood Community Consol.	14	434	48	8	
Bruning Elementary	15	251	28	5	
LJ Stevens Middle School	15	400	44	7	
Trinity Services	15	25	3	0	1
Wilmington High School	15	474	53	9	
St Rose School	15	144	16	3	
Reed Custer Intermediate	16	508	56	9	
Reed Custer High School	16	595	66	11	
Reed Custer Middle School	16	391	43	7	
Minooka Primary (PK-K)	1	330	37	6	
Walnut Trails Elementary	13	491	55	9	

Table A5. Daycare Facilities in Dresden EPZ

Facility	Sub-Area	children	staff	van	bus
Childrens Crossing Learning Center	1	83	14	5	
Minooka United Methodist Church	1	19	4	2	
Step by Step Learning Center	2	149	19		4
Prairieland Day Care	5	40	7	3	
Kids Corner	10	24	4	2	
Step by Step IV Child Care	10	103	18		3
Godley Park District	10	102	17		3
Lighthouse Kids, Inc.	12	134	23		4
Joliet Jr College Day Care	13	40	7	3	
Garden Gate Montessori	13	80	14		3
Shorewood Early Learning Center	13	114	19		4
Methodist Preschool	5	20	4	2	
Rainbow Preschool	8	38	7	3	
Two Rivers Head Start	2	34	6	3	
Prairieland Kids Day Care	5	40	7	3	
Debbie's Day Care	13	83	14		3
Trinity Christian Preschool	13	40	7	3	
Chesterbrook Academy	13	163	28		5
Catholic Charities Head Start	13	190	32		6
Shepherd's Flock Pre-School	16	30	5	2	
Grace Lutheran Church Preschool	15	30	5	2	

Table A-6. Hospitals, Nursing Homes and Assisted Living in Dresden EPZ

Facility	City	Sub Area	residents	staff day	staff nt/wkd	ambu- lance	van
Morris Hospital	Morris	5	89	450	150	8	4
Walnut Grove Health Care	Morris	2	123	60	15	6	6
Cambridge Home	Shorewood	13	4	6	2		1
Liberty Place (Cherokee Ridge)	Channahon	12	4	6	2		1
Park Place (Channahon)	Channahon	13	4	7	2		1
Morris Healthcare & Rehab Center	Morris	5	142	60	18	7	7
Embassy Care Center	Wilmington	15	135	97	20		8
Troy Twp Sr Citizens Ctr	Shorewood	13	26	2	0		2
Illinois Valley Industries	Morris	5	60	15	0		3
Timbers of Shorewood	Shorewood	13	100	25	5		5



Appendix B

Telephone Survey of EPZ Residents

Summary of Telephone Survey Results

Completed surveys 385

Demographic Adjustment

total population 106100
total HH 37881
persons per HH 2.80

Results (after adjustment)

vehicles used to evacuate
when all at home 1.45
 fraction taking 1 vehicle 0.64
 fraction taking 2 veh 0.31
 fraction taking 3 or more 0.05

Work Outside Home (% of HH)

one or more work outside 74.8
Of those who work outside percent
take vehicle to work 94.5
evacuate direct from work 24.8
stay outside EPZ 18.9
return home to evacuate 56.3
 one returns 32.1
 2 or more return 24.2

Shifts (percent)

Weekday 70.7
Swing shift 8.3
Graveyard 4.5
evening/weekend 8.2
rotate 8.3

Age Mix	SURVEY Response (percent)	census 2010 age for head of household (percent)	adjustment factor
under 55	33.8	64.5	1.91
55-64	24.4	17.3	0.71
65 and over	42.3	18.2	0.43

time distribution (fraction)	0 to 15 minutes	15 to 30 minutes	30 to 45 minutes	45 to 60 minutes	> 60 minutes
leave work after notice	0.78	0.16	0.02	0.02	0.02
travel home	0.48	0.30	0.09	0.08	0.05
depart after work return	0.42	0.41	0.08	0.05	0.05
depart (all at home)	0.31	0.46	0.14	0.05	0.03

ARCADIS
Exelon Survey
Final v6 - August 23, 2011

INTRODUCTION

Hello, my name is _____ and I am calling from MDC Research, a public opinion firm. We are conducting a brief survey to gather information from households in your area about emergency response planning, and we'd like to include your opinions. This survey is being conducted on behalf of the (insert facility name) Nuclear Facility, and will take approximately 5 minutes to complete. We are not trying to sell you anything. The information gathered from this survey will help local agencies more effectively provide community assistance should an emergency situation arise.

Can I please speak with an adult member of the household?

SCREENER

S1. What is the zip code of your primary residence? This is the home where you live the majority of the time. **DO NOT READ ZIP CODE LIST**

List of appropriate zip codes will be displayed here

99999 Location outside the EPZ – **THANK & TERMINATE**

S2. Which of the following categories best describes your age?

- 11 Under 18 yrs of age – **ASK FOR REFERRAL or THANK & TERMINATE**
- 12 18 to 24
- 13 25 to 34
- 14 35 to 44
- 15 45 to 54
- 16 55 to 64
- 17 65 to 74
- 18 75 or older
- 98 (DO NOT READ) Refused

QUESTIONNAIRE

Q1 How many people currently reside in your household?

Record: _____ # of residents

998 **(DO NOT READ)** Refused – **THANK & TERMINATE**

Q2 How many motor vehicles are normally based at your home?

Record: _____ # of vehicles

997 None - **SKIP TO Q14**

998 **(DO NOT READ)** Refused

Q3 How many members of your household are over the age of 16?

Record: _____ # of residents

998 **(DO NOT READ)** Refused

Q4 How many members of your household are licensed drivers?

Record: _____ # of drivers

998 **(DO NOT READ)** Refused

Q5 How many of the adults in your household work outside the home?

Record _____ **→ Skip to Q6A**

997 None – **Continue to Q5A**

998 **(DO NOT READ)** Refused

If refused, explain; The nature of this project is to estimate traffic volumes and flow in the event of an emergency evacuation, so this data is necessary in order for us to continue with the survey.

If still refused - **THANK & TERMINATE**

Q5A (ONLY ASK IF Q5=997) Which of the following best describes the non-working adults in your household? MULTIPLE MENTION – IP NOTE: No more mentions than Q3 mentions.

11 Currently unemployed/actively looking for work

12 Retired

13 On Disability or leave of absence

14 Student/continuing education

15 Homemaker

99 Other – please specify

SKIP TO Q11

Repeat the following Q6A-F sequence for each working adult cited in Q5

For each of the working adults you just referenced, I'd like to ask a few questions related to what their likely actions would be in the case of an emergency evacuation. I understand that I will be asking you to speculate on what other members of the household may do in this situation, but your best guesses are just fine for our purposes.

Q6A Who is the first working adult in the household that you are thinking about? What is their relationship to you?

- 1 Self
- 2 Spouse or significant other
- 3 Parent of child
- 4 Other relative or in-law
- 5 Roommate
- 6 Boarder
- 7 Other

Q6B Which of the following best describes this person's usual work schedule?

- 1 Monday – Friday, 8:00am to 5:00pm
- 2 Swing Shift
- 3 Graveyard
- 4 Evenings and weekends
- 5 Rotating shifts
- 6 Other or irregular schedule
- 7 **(DO NOT READ)** Don't know

Q6C Does this person generally use a personal vehicle to commute back and forth to work?

- 1 Yes
- 2 No
- 7 **(DO NOT READ)** Don't know

Q6D If an evacuation notice were given while this person was at work, do you think they would most likely...

- 1 Evacuate directly from work
- 2 Come home first and then evacuate, or
- 3 Stay outside the evacuation zone where they work → **Skip to Q7**
- 7 **(DO NOT READ)** Don't know

Q6E How long do you think it would take this person to get prepared and actually leave work?
(Read list if necessary)

- 1 Less than 15 minutes
- 2 15 to 30 minutes
- 3 30 to 45 minutes
- 4 45 to 60 minutes
- 5 More than 60 minutes
- 7 **(DO NOT READ)** Don't know

If response at 6D is 1, skip from here to Q7

Q6F About how long does it take this household member to get from work to home?
(**Read list if necessary**)

- 1 Less than 15 minutes
- 2 15 to 30 minutes
- 3 30 to 45 minutes
- 4 45 to 60 minutes
- 5 More than 60 minutes
- 7 **(DO NOT READ)** Don't know

Q7A-F Repeat Q6 sequence for worker #2

Q8A-F Repeat Q6 sequence for worker #3

Q9A-F Repeat Q6 sequence for worker #4

Q10 And once everyone who is coming home from work has arrived, how long would it take to prepare and depart from home, taking into consideration whether or not someone else is usually home who may be starting these preparation while they are travelling?

- 1 Less than 15 minutes
- 2 15 to 30 minutes
- 3 30 to 45 minutes
- 4 45 to 60 minutes
- 5 More than 60 minutes
- 7 **(DO NOT READ)** Don't know

Q11 Are any of the licensed drivers in your household restricted to **daytime driving** only?

- 1 Yes
- 2 No
- 9 **(DO NOT READ)** Refused

Q12 If an evacuation were ordered when all household members were at home (for example, at night or on a weekend), approximately how long would it take your household to

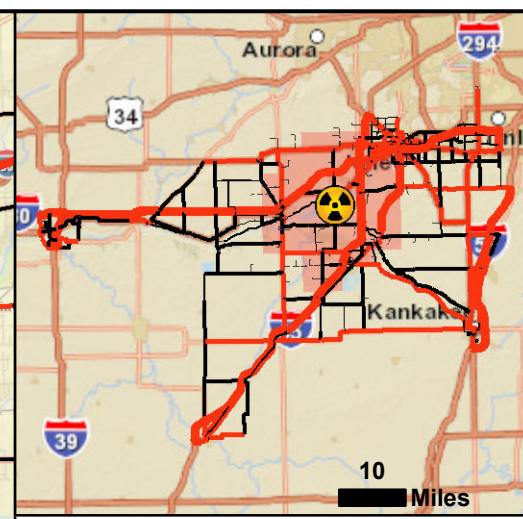
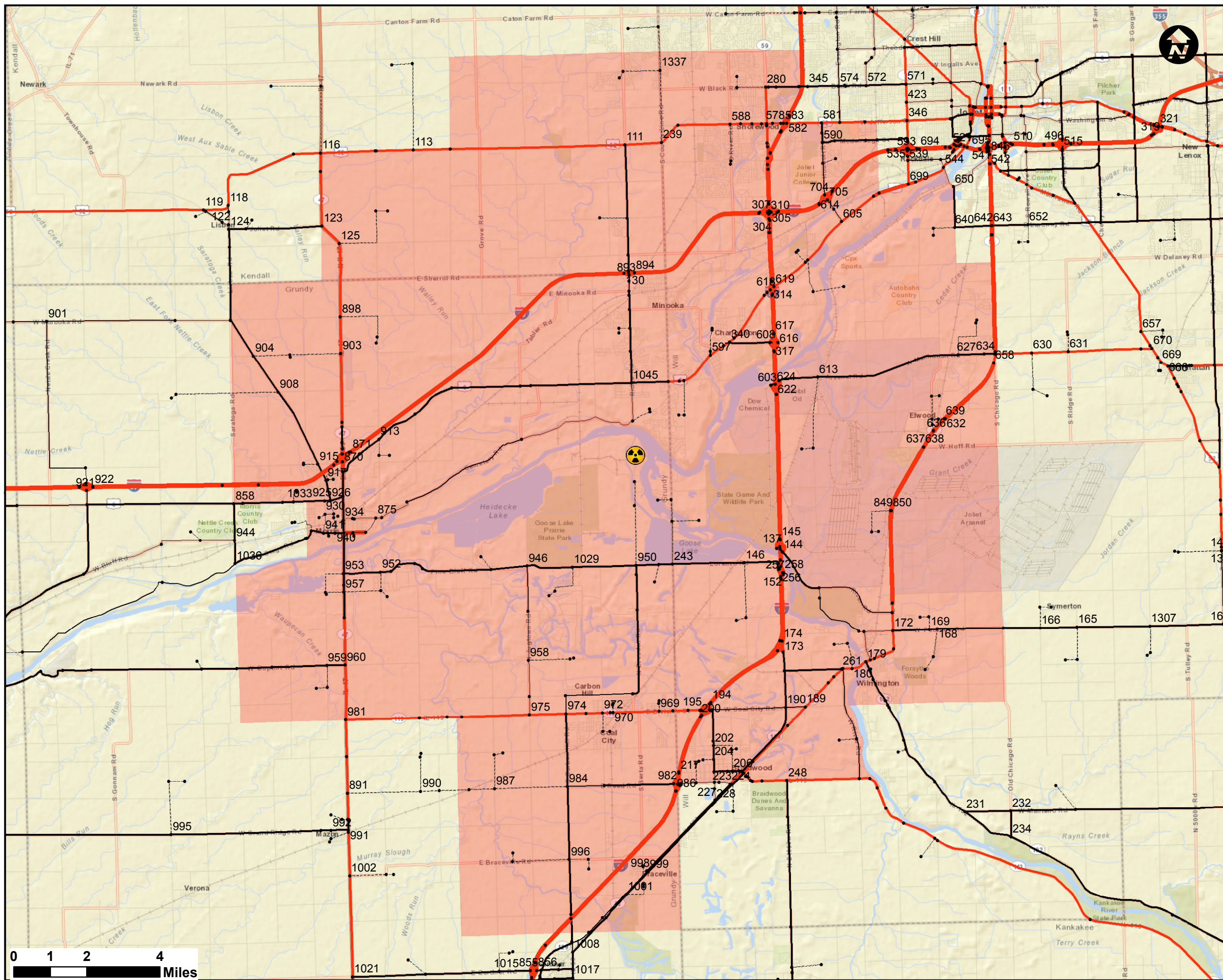
9 **(DO NOT READ)** Refused

This is all the questions we have for you today/tonight. Thank you for participating in this survey. Your responses will help us to make an accurate prediction of traffic conditions during an emergency situation. If you have any questions about this survey, please feel free to contact <insert contact name, job title, and phone number/email>.



Appendix C

Roadway Network Map and Data Table



**Roadway Network
for
Dresden Station
ETE Analysis**

August 2012

Legend

- Dresden Station
- Nodes

Road Classification

- Freeway
- Principal Arterial
- Major Arterial
- Minor Arterial
- Collector
- Local Rd
- Dresden EPZ



Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
1	112	113	1.009	12	1	Principal Arterial	1600	55
2	113	112	1.009	12	1	Principal Arterial	1600	55
3	114	115	0.019	12	1	Principal Arterial	1600	45
4	115	114	0.019	12	1	Principal Arterial	1600	45
5	116	117	0.741	12	1	Principal Arterial	1600	55
6	117	116	0.741	12	1	Principal Arterial	1600	55
7	118	119	0.73	12	1	Principal Arterial	1600	55
8	119	118	0.73	12	1	Principal Arterial	1600	55
9	123	125	0.673	12	1	Principal Arterial	1600	55
10	125	123	0.673	12	1	Principal Arterial	1600	55
11	124	126	1.63	11	1	Major Arterial	1300	30
12	126	124	1.63	11	1	Major Arterial	1300	30
13	121	127	1.005	12	1	Major Arterial	1300	45
14	127	121	1.005	12	1	Major Arterial	1300	45
15	127	128	1.426	12	2	Major Arterial	2700	45
16	128	127	1.426	12	2	Major Arterial	2700	45
17	129	128	0.55	12	1	Ramp	1500	35
18	128	130	0.473	12	1	Ramp	1500	35
19	131	132	0.382	12	1	Principal Arterial	1600	55
20	132	131	0.382	12	1	Principal Arterial	1600	55
21	135	134	0.992	12	1	Ramp	1500	35
22	136	137	0.818	12	1	Ramp	1500	35
23	134	136	0.038	12	1	Major Arterial	1300	45
24	139	140	0.129	12	1	Principal Arterial	1600	45
25	140	139	0.129	12	1	Principal Arterial	1600	45
26	139	141	0.072	11	1	Major Arterial	1300	35
27	141	139	0.072	11	1	Major Arterial	1300	35
28	140	141	0.098	11	1	Minor Arterial	1300	35
29	141	140	0.098	11	1	Minor Arterial	1300	35
30	143	142	0.892	12	1	Ramp	1500	35
31	144	145	1.231	12	1	Ramp	1500	35
32	142	144	0.044	12	1	Major Arterial	1300	45
33	144	142	0.044	12	1	Major Arterial	1300	45
34	148	147	0.36	12	1	Ramp	1500	45
35	147	149	0.08	12	1	Major Arterial	1300	45
36	149	147	0.08	12	1	Major Arterial	1300	45
37	147	150	0.384	12	1	Major Arterial	1300	45
38	150	147	0.384	12	1	Major Arterial	1300	45
39	151	152	0.039	12	1	Minor Arterial	1300	40
40	153	151	0.15	12	1	Ramp	1500	35
41	155	156	0.263	12	1	Principal Arterial	1600	55
42	156	155	0.263	12	1	Principal Arterial	1600	55
43	157	158	0.245	12	1	Ramp	1500	35
44	160	159	0.309	12	1	Ramp	1500	35
45	159	161	0.109	12	1	Principal Arterial	1600	45
46	161	159	0.109	12	1	Principal Arterial	1600	45
47	159	163	0.207	12	1	Ramp	1500	35
48	165	166	1.002	12	1	Major Arterial	1300	45
49	166	165	1.002	12	1	Major Arterial	1300	45
50	168	169	0.211	12	1	Major Arterial	1300	45
51	169	168	0.211	12	1	Major Arterial	1300	45
52	171	172	0.499	12	1	Principal Arterial	1600	45
53	172	171	0.499	12	1	Principal Arterial	1600	45
54	173	174	0.988	12	1	Ramp	1500	35
55	175	173	0.617	12	1	Ramp	1500	35

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
56	184	185	0.219	12	1	Principal Arterial	1600	45
57	185	184	0.219	12	1	Principal Arterial	1600	45
58	187	188	0.143	12	1	Major Arterial	1300	45
59	188	187	0.143	12	1	Major Arterial	1300	45
60	184	189	0.911	12	1	Principal Arterial	1600	55
61	189	184	0.911	12	1	Principal Arterial	1600	55
62	182	190	1.001	12	1	Major Arterial	1300	45
63	190	182	1.001	12	1	Major Arterial	1300	45
64	188	191	0.07	12	1	Major Arterial	1300	45
65	191	188	0.07	12	1	Major Arterial	1300	45
66	192	193	0.079	12	1	Major Arterial	1300	45
67	193	192	0.079	12	1	Major Arterial	1300	45
68	193	194	0.206	12	1	Ramp	1500	35
69	196	195	0.296	12	1	Ramp	1500	35
70	195	197	0.035	12	1	Principal Arterial	1600	45
71	197	195	0.035	12	1	Principal Arterial	1600	45
72	197	198	0.325	12	1	Principal Arterial	1600	45
73	198	197	0.325	12	1	Principal Arterial	1600	45
74	199	193	0.275	12	1	Ramp	1500	35
75	195	200	0.193	12	1	Ramp	1500	35
76	205	206	0.178	11	1	Major Arterial	1300	25
77	206	205	0.178	11	1	Major Arterial	1300	25
78	206	207	0.124	11	1	Major Arterial	1300	25
79	207	206	0.124	11	1	Major Arterial	1300	25
80	210	211	0.151	12	1	Principal Arterial	1600	35
81	211	210	0.151	12	1	Principal Arterial	1600	35
82	211	215	0.126	12	1	Principal Arterial	1600	35
83	215	211	0.126	12	1	Principal Arterial	1600	35
84	215	216	0.061	12	1	Principal Arterial	1600	45
85	216	215	0.061	12	1	Principal Arterial	1600	45
86	218	219	0.121	12	1	Collector / Local Road	1300	45
87	219	218	0.121	12	1	Collector / Local Road	1300	45
88	221	217	1.005	12	1	Ramp	1500	35
89	221	222	0.209	12	1	Collector / Local Road	1300	45
90	222	221	0.209	12	1	Collector / Local Road	1300	45
91	213	225	0.326	12	1	Principal Arterial	1600	55
92	225	213	0.326	12	1	Principal Arterial	1600	55
93	225	229	0.621	12	1	Principal Arterial	1600	55
94	229	225	0.621	12	1	Principal Arterial	1600	55
95	231	232	4.11	12	1	Major Arterial	1300	45
96	232	231	4.11	12	1	Major Arterial	1300	45
97	123	238	1.513	12	1	Principal Arterial	1600	55
98	238	123	1.513	12	1	Principal Arterial	1600	55
99	111	239	3.312	12	1	Principal Arterial	1600	55
100	239	111	3.312	12	1	Principal Arterial	1600	55
101	240	241	0.096	12	1	Principal Arterial	1600	45
102	241	240	0.096	12	1	Principal Arterial	1600	45
103	203	242	0.263	12	1	Major Arterial	1300	55
104	242	203	0.263	12	1	Major Arterial	1300	55
105	166	167	1.004	12	1	Major Arterial	1300	45
106	167	166	1.004	12	1	Major Arterial	1300	45
107	114	116	1.494	12	1	Principal Arterial	1600	55
108	116	114	1.494	12	1	Principal Arterial	1600	55
109	113	115	1.012	12	1	Principal Arterial	1600	55
110	115	113	1.012	12	1	Principal Arterial	1600	55
111	219	244	0.172	12	1	Collector / Local Road	1300	40

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
112	244	219	0.172	12	1	Collector / Local Road	1300	40
113	227	244	0.314	12	1	Collector / Local Road	1300	40
114	244	227	0.314	12	1	Collector / Local Road	1300	40
115	245	246	1.376	12	1	Principal Arterial	1600	55
116	246	245	1.376	12	1	Principal Arterial	1600	55
117	247	248	1.004	12	1	Major Arterial	1300	55
118	248	247	1.004	12	1	Major Arterial	1300	55
119	146	149	0.938	12	1	Major Arterial	1300	45
120	149	146	0.938	12	1	Major Arterial	1300	45
121	189	246	0.706	12	1	Principal Arterial	1600	55
122	246	189	0.706	12	1	Principal Arterial	1600	55
123	162	176	0.999	12	1	Principal Arterial	1600	45
124	176	162	0.999	12	1	Principal Arterial	1600	45
125	138	139	0.741	12	1	Principal Arterial	1600	45
126	139	138	0.741	12	1	Principal Arterial	1600	45
127	250	251	1.568	12	1	Minor Arterial	1300	40
128	251	250	1.568	12	1	Minor Arterial	1300	40
129	150	254	0.135	12	1	Major Arterial	1300	45
130	254	150	0.135	12	1	Major Arterial	1300	45
131	254	255	0.056	12	1	Ramp	1500	35
132	255	256	0.665	12	1	Ramp	1500	35
133	150	255	0.139	12	1	Ramp	1500	35
134	152	257	0.118	12	1	Major Arterial	1300	45
135	257	258	0.062	12	1	Ramp	1500	35
136	258	253	0.612	12	1	Ramp	1500	35
137	152	258	0.132	12	1	Ramp	1500	35
138	221	259	0.081	12	1	Collector / Local Road	1300	45
139	259	221	0.081	12	1	Collector / Local Road	1300	45
140	260	221	0.054	12	1	Ramp	1500	35
141	260	259	0.029	12	1	Ramp	1500	35
142	249	261	0.044	12	1	Major Arterial	1300	45
143	261	262	0.016	12	1	Major Arterial	1300	45
144	262	261	0.016	12	1	Major Arterial	1300	45
145	185	262	0.303	12	1	Principal Arterial	1600	35
146	262	185	0.303	12	1	Principal Arterial	1600	35
147	249	262	0.034	12	1	Principal Arterial	1600	35
148	262	249	0.034	12	1	Principal Arterial	1600	35
149	263	157	0.295	12	1	Ramp	1500	35
150	266	267	0.117	12	1	Collector / Local Road	1300	40
151	267	266	0.117	12	1	Collector / Local Road	1300	40
152	128	270	0.207	12	2	Major Arterial	2700	45
153	270	128	0.207	12	2	Major Arterial	2700	45
154	290	289	0.046	12	2	Freeway	4100	65
155	325	324	0.055	12	2	Freeway	4100	65
156	328	327	0.338	12	2	Freeway	4100	65
157	335	334	0.496	12	2	Principal Arterial	3200	45
158	339	340	0.627	12	2	Principal Arterial	3200	45
159	340	339	0.627	12	2	Principal Arterial	3200	45
160	342	343	0.319	12	1	Principal Arterial	1600	45
161	343	342	0.319	12	1	Principal Arterial	1600	45
162	346	356	1.65	12	2	Principal Arterial	3200	45
163	356	346	1.65	12	2	Principal Arterial	3200	45
164	353	336	0.328	12	1	Ramp	1500	35
165	363	364	0.227	12	1	Minor Arterial	1300	40
166	364	363	0.227	12	1	Minor Arterial	1300	40
167	369	368	0.574	12	1	Ramp	1500	35

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
168	368	366	0.149	12	2	Principal Arterial	3200	45
169	372	374	1	12	1	Collector / Local Road	1300	40
170	374	372	1	12	1	Collector / Local Road	1300	40
171	375	338	1.604	12	1	Ramp	1500	35
172	378	382	0.325	12	2	Principal Arterial	3200	45
173	382	378	0.325	12	2	Principal Arterial	3200	45
174	384	385	0.152	12	2	Major Arterial	2700	45
175	385	384	0.152	12	2	Major Arterial	2700	45
176	386	387	2.11	12	1	Ramp	1500	35
177	388	389	0.124	12	1	Minor Arterial	1300	40
178	389	388	0.124	12	1	Minor Arterial	1300	40
179	385	389	0.122	12	1	Collector / Local Road	1300	40
180	389	385	0.122	12	1	Collector / Local Road	1300	40
181	384	389	0.091	12	1	Minor Arterial	1300	40
182	389	384	0.091	12	1	Minor Arterial	1300	40
183	391	392	0.03	12	1	Major Arterial	1300	45
184	392	391	0.03	12	1	Major Arterial	1300	45
185	393	394	0.036	12	1	Collector / Local Road	1300	40
186	394	393	0.036	12	1	Collector / Local Road	1300	40
187	395	396	0.029	12	1	Collector / Local Road	1300	40
188	396	395	0.029	12	1	Collector / Local Road	1300	40
189	366	398	0.021	12	2	Minor Arterial	2600	40
190	398	366	0.021	12	2	Minor Arterial	2600	40
191	406	405	0.027	12	1	Collector / Local Road	1300	40
192	406	408	0.023	12	1	Major Arterial	1300	45
193	408	406	0.023	12	1	Major Arterial	1300	45
194	405	408	0.02	12	1	Collector / Local Road	1300	40
195	408	405	0.02	12	1	Collector / Local Road	1300	40
196	408	411	0.021	12	1	Collector / Local Road	1300	40
197	411	408	0.021	12	1	Collector / Local Road	1300	40
198	412	413	0.036	12	1	Principal Arterial	1600	45
199	412	414	0.034	12	1	Collector / Local Road	1300	45
200	413	414	0.04	12	1	Principal Arterial	1600	45
201	414	413	0.04	12	1	Principal Arterial	1600	45
202	420	421	0.026	12	1	Principal Arterial	1600	45
203	421	420	0.026	12	1	Principal Arterial	1600	45
204	437	433	0.063	12	1	Principal Arterial	1600	45
205	440	441	0.066	12	1	Minor Arterial	1300	40
206	441	440	0.066	12	1	Minor Arterial	1300	40
207	443	445	0.057	12	1	Principal Arterial	1600	45
208	446	442	0.15	12	2	Principal Arterial	3200	45
209	446	447	0.009	12	1	Minor Arterial	1300	40
210	447	446	0.009	12	1	Minor Arterial	1300	40
211	442	447	0.147	12	2	Principal Arterial	3200	45
212	444	450	0.065	12	1	Principal Arterial	1600	45
213	450	444	0.065	12	1	Principal Arterial	1600	45
214	354	440	0.192	12	1	Minor Arterial	1300	40
215	440	354	0.192	12	1	Minor Arterial	1300	40
216	452	453	1.121	12	2	Principal Arterial	3200	45
217	453	452	1.121	12	2	Principal Arterial	3200	45
218	450	454	0.04	12	1	Minor Arterial	1300	40
219	454	450	0.04	12	1	Minor Arterial	1300	40
220	455	446	0.157	12	2	Principal Arterial	3200	45
221	457	458	0.075	12	1	Principal Arterial	1600	45
222	457	459	0.073	12	1	Collector / Local Road	1300	45
223	459	457	0.073	12	1	Collector / Local Road	1300	45

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
224	449	459	0.064	12	1	Principal Arterial	1600	45
225	455	460	0.01	12	1	Major Arterial	1300	45
226	460	455	0.01	12	1	Major Arterial	1300	45
227	447	460	0.165	12	2	Principal Arterial	3200	45
228	461	462	0.046	12	1	Principal Arterial	1600	45
229	462	461	0.046	12	1	Principal Arterial	1600	45
230	461	464	0.027	12	1	Major Arterial	1300	45
231	464	461	0.027	12	1	Major Arterial	1300	45
232	462	464	0.045	12	1	Collector / Local Road	1300	40
233	465	467	0.057	12	1	Major Arterial	1300	50
234	467	465	0.057	12	1	Major Arterial	1300	50
235	468	455	0.587	12	2	Principal Arterial	3200	45
236	468	466	0.011	12	1	Collector / Local Road	1300	45
237	466	469	0.012	12	2	Principal Arterial	3200	45
238	466	319	0.956	12	1	Ramp	1500	35
239	472	471	0.01	12	2	Principal Arterial	3200	45
240	472	321	0.821	12	1	Ramp	1500	35
241	318	469	0.278	12	1	Ramp	1500	35
242	320	471	0.322	12	1	Ramp	1500	35
243	476	478	0.054	12	1	Major Arterial	1300	50
244	478	476	0.054	12	1	Major Arterial	1300	50
245	479	476	0.041	12	1	Collector / Local Road	1300	40
246	478	479	0.045	12	1	Collector / Local Road	1300	40
247	480	481	0.009	12	1	Minor Arterial	1300	40
248	481	480	0.009	12	1	Minor Arterial	1300	40
249	477	483	0.042	12	1	Minor Arterial	1300	40
250	483	477	0.042	12	1	Minor Arterial	1300	40
251	484	485	0.056	12	1	Major Arterial	1300	45
252	485	484	0.056	12	1	Major Arterial	1300	45
253	479	485	0.029	12	1	Collector / Local Road	1300	40
254	485	479	0.029	12	1	Collector / Local Road	1300	40
255	330	333	0.064	12	1	Major Arterial	1300	50
256	332	487	0.234	12	1	Major Arterial	1300	50
257	356	489	0.259	12	2	Principal Arterial	3200	45
258	489	356	0.259	12	2	Principal Arterial	3200	45
259	492	491	0.57	12	1	Ramp	1500	35
260	493	494	0.163	12	1	Ramp	1500	35
261	494	492	0.009	12	1	Collector / Local Road	1300	40
262	495	486	0.283	12	1	Ramp	1500	35
263	486	496	1.024	12	1	Ramp	1500	35
264	487	498	0.353	12	1	Minor Arterial	1300	40
265	499	330	0.62	12	1	Ramp	1500	35
266	503	504	0.022	12	1	Collector / Local Road	1300	40
267	504	503	0.022	12	1	Collector / Local Road	1300	40
268	506	505	0.46	12	1	Ramp	1500	35
269	507	322	0.032	12	1	Principal Arterial	1600	45
270	508	282	0.168	12	1	Ramp	1500	35
271	487	327	1.163	12	1	Ramp	1500	35
272	507	324	0.732	12	1	Ramp	1500	35
273	509	510	0.693	12	1	Ramp	1500	35
274	511	323	0.196	12	1	Ramp	1500	35
275	489	512	0.548	12	2	Principal Arterial	3200	45
276	512	489	0.548	12	2	Principal Arterial	3200	45
277	512	514	0.046	12	2	Principal Arterial	3200	45
278	514	512	0.046	12	2	Principal Arterial	3200	45
279	299	489	0.341	12	1	Ramp	1500	35

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
280	515	497	0.928	12	1	Ramp	1500	35
281	512	298	0.813	12	1	Ramp	1500	35
282	516	515	0.301	12	1	Ramp	1500	35
283	511	517	0.656	12	2	Freeway	4100	60
284	490	517	1.035	12	1	Ramp	1500	35
285	520	506	0.55	12	1	Ramp	1500	35
286	520	521	0.417	12	1	Minor Arterial	1300	40
287	326	522	0.62	12	1	Ramp	1500	35
288	515	523	0.049	12	1	Major Arterial	1300	45
289	523	515	0.049	12	1	Major Arterial	1300	45
290	524	525	0.069	12	2	Principal Arterial	3200	45
291	525	524	0.069	12	2	Principal Arterial	3200	45
292	527	526	0.07	12	1	Ramp	1500	35
293	529	528	0.06	12	2	Principal Arterial	3200	45
294	530	528	0.84	12	1	Ramp	1500	35
295	331	520	0.265	12	1	Minor Arterial	1300	40
296	281	509	0.149	12	1	Minor Arterial	1300	40
297	524	533	0.777	12	1	Ramp	1500	35
298	300	525	0.828	12	1	Ramp	1500	35
299	524	534	0.425	12	2	Principal Arterial	3200	45
300	534	524	0.425	12	2	Principal Arterial	3200	45
301	534	535	0.044	12	2	Principal Arterial	3200	45
302	535	534	0.044	12	2	Principal Arterial	3200	45
303	536	535	1.309	12	1	Ramp	1500	35
304	540	541	0.129	12	1	Principal Arterial	1600	45
305	541	540	0.129	12	1	Principal Arterial	1600	45
306	541	542	0.004	12	1	Principal Arterial	1600	45
307	542	541	0.004	12	1	Principal Arterial	1600	45
308	518	543	0.419	12	1	Major Arterial	1300	45
309	543	518	0.419	12	1	Major Arterial	1300	45
310	458	448	0.055	12	1	Principal Arterial	1600	45
311	551	552	0.152	12	2	Freeway	4100	65
312	554	553	0.181	12	2	Principal Arterial	3200	45
313	554	555	0.014	12	1	Collector / Local Road	1300	45
314	553	555	0.18	12	2	Principal Arterial	3200	45
315	556	551	0.255	12	1	Ramp	1500	35
316	285	556	0.012	12	1	Collector / Local Road	1300	45
317	557	285	0.316	12	1	Ramp	1500	35
318	286	558	0.034	12	2	Principal Arterial	3200	45
319	558	286	0.034	12	2	Principal Arterial	3200	45
320	268	559	0.447	12	1	Minor Arterial	1300	40
321	559	268	0.447	12	1	Minor Arterial	1300	40
322	564	568	0.146	12	2	Collector / Local Road	2600	40
323	568	564	0.146	12	2	Collector / Local Road	2600	40
324	342	569	0.244	12	1	Major Arterial	1300	45
325	569	342	0.244	12	1	Major Arterial	1300	45
326	343	569	0.225	12	1	Collector / Local Road	1300	45
327	569	343	0.225	12	1	Collector / Local Road	1300	45
328	344	583	0.076	12	2	Principal Arterial	3200	45
329	583	344	0.076	12	2	Principal Arterial	3200	45
330	587	588	0.286	12	2	Principal Arterial	3200	45
331	588	587	0.286	12	2	Principal Arterial	3200	45
332	347	578	0.06	12	2	Principal Arterial	3200	45
333	578	347	0.06	12	2	Principal Arterial	3200	45
334	350	581	0.93	12	2	Major Arterial	2700	45
335	581	350	0.93	12	2	Major Arterial	2700	45

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
336	351	352	0.313	12	1	Major Arterial	1300	45
337	352	351	0.313	12	1	Major Arterial	1300	45
338	350	590	0.859	12	2	Major Arterial	2700	45
339	590	350	0.859	12	2	Major Arterial	2700	45
340	348	591	0.092	12	1	Principal Arterial	1600	45
341	592	514	0.862	12	1	Ramp	1500	35
342	489	593	0.424	12	1	Ramp	1500	35
343	349	292	0.173	12	1	Ramp	1500	35
344	597	600	0.108	12	1	Major Arterial	1300	45
345	600	597	0.108	12	1	Major Arterial	1300	45
346	601	602	0.039	12	1	Major Arterial	1300	45
347	602	601	0.039	12	1	Major Arterial	1300	45
348	603	604	0.009	12	1	Major Arterial	1300	45
349	598	607	0.108	12	2	Principal Arterial	3200	45
350	607	598	0.108	12	2	Principal Arterial	3200	45
351	609	608	0.875	12	1	Ramp	1500	35
352	610	293	0.63	12	3	Freeway	6150	65
353	611	302	0.552	12	2	Freeway	4100	65
354	311	302	1.077	12	1	Ramp	1500	55
355	309	307	0.753	12	1	Ramp	1500	55
356	610	305	0.824	12	1	Ramp	1500	55
357	611	310	0.845	12	1	Ramp	1500	55
358	612	301	0.216	12	2	Freeway	4100	65
359	612	294	0.892	12	1	Ramp	1500	55
360	309	304	0.434	12	3	Freeway	6150	65
361	308	304	1.124	12	1	Ramp	1500	55
362	295	301	0.392	12	1	Ramp	1500	55
363	306	293	1.164	12	1	Ramp	1500	55
364	340	615	0.568	12	2	Principal Arterial	3200	45
365	615	340	0.568	12	2	Principal Arterial	3200	45
366	608	317	0.848	12	1	Ramp	1500	35
367	616	617	0.895	12	1	Ramp	1500	35
368	316	616	0.894	12	1	Ramp	1500	35
369	620	621	0.305	12	2	Principal Arterial	3200	45
370	621	620	0.305	12	2	Principal Arterial	3200	45
371	599	621	0.116	12	2	Principal Arterial	3200	45
372	621	599	0.116	12	2	Principal Arterial	3200	45
373	604	622	0.297	12	1	Ramp	1500	35
374	623	603	0.256	12	1	Ramp	1500	35
375	601	624	1.1	12	1	Ramp	1500	35
376	625	624	0.284	12	2	Freeway	4100	65
377	625	602	1.336	12	1	Ramp	1500	35
378	623	622	0.275	12	2	Freeway	4100	65
379	315	619	0.668	12	1	Ramp	1500	35
380	619	312	0.493	12	1	Ramp	1500	35
381	313	618	0.883	12	1	Ramp	1500	35
382	618	314	0.518	12	1	Ramp	1500	35
383	630	631	0.996	12	1	Principal Arterial	1600	55
384	631	630	0.996	12	1	Principal Arterial	1600	55
385	633	634	0.011	12	1	Principal Arterial	1600	45
386	634	633	0.011	12	1	Principal Arterial	1600	45
387	635	636	0.012	12	1	Collector / Local Road	1300	40
388	636	635	0.012	12	1	Collector / Local Road	1300	40
389	637	638	0.015	12	1	Collector / Local Road	1300	40
390	638	637	0.015	12	1	Collector / Local Road	1300	40
391	632	639	0.019	12	1	Collector / Local Road	1300	40

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
392	639	632	0.019	12	1	Collector / Local Road	1300	40
393	642	643	0.011	12	1	Major Arterial	1300	45
394	643	642	0.011	12	1	Major Arterial	1300	45
395	646	647	0.618	12	1	Principal Arterial	1600	45
396	647	646	0.618	12	1	Principal Arterial	1600	45
397	647	648	0.171	12	1	Principal Arterial	1600	35
398	648	647	0.171	12	1	Principal Arterial	1600	35
399	644	649	0.332	12	1	Major Arterial	1300	45
400	649	644	0.332	12	1	Major Arterial	1300	45
401	633	656	0.285	12	1	Major Arterial	1300	45
402	656	633	0.285	12	1	Major Arterial	1300	45
403	634	658	0.257	12	2	Principal Arterial	3650	55
404	658	634	0.257	12	2	Principal Arterial	3650	55
405	638	636	0.507	12	2	Principal Arterial	3650	55
406	635	637	0.521	12	2	Principal Arterial	3650	55
407	642	654	0.249	12	2	Principal Arterial	3650	50
408	655	643	0.249	12	2	Principal Arterial	3650	50
409	630	634	0.999	12	1	Principal Arterial	1600	55
410	634	630	0.999	12	1	Principal Arterial	1600	55
411	663	664	3.294	12	1	Principal Arterial	1600	55
412	664	663	3.294	12	1	Principal Arterial	1600	55
413	666	669	0.209	12	1	Principal Arterial	1600	30
414	669	666	0.209	12	1	Principal Arterial	1600	30
415	671	672	0.536	12	1	Collector / Local Road	1300	45
416	672	671	0.536	12	1	Collector / Local Road	1300	45
417	672	673	0.902	12	1	Principal Arterial	1600	50
418	673	672	0.902	12	1	Principal Arterial	1600	50
419	671	673	0.74	12	1	Major Arterial	1300	45
420	673	671	0.74	12	1	Major Arterial	1300	45
421	674	675	0.069	12	1	Principal Arterial	1600	35
422	675	674	0.069	12	1	Principal Arterial	1600	35
423	668	675	0.187	12	1	Principal Arterial	1600	35
424	675	668	0.187	12	1	Principal Arterial	1600	35
425	667	676	0.088	12	1	Major Arterial	1300	40
426	676	667	0.088	12	1	Major Arterial	1300	40
427	676	678	0.064	12	1	Principal Arterial	1600	40
428	678	676	0.064	12	1	Principal Arterial	1600	40
429	665	678	0.624	12	1	Principal Arterial	1600	55
430	678	665	0.624	12	1	Principal Arterial	1600	55
431	669	680	0.16	12	1	Principal Arterial	1600	35
432	680	669	0.16	12	1	Principal Arterial	1600	35
433	684	685	0.059	12	1	Minor Arterial	1300	40
434	685	684	0.059	12	1	Minor Arterial	1300	40
435	679	688	0.161	12	1	Principal Arterial	1600	50
436	688	679	0.161	12	2	Principal Arterial	3200	45
437	684	689	0.01	12	1	Minor Arterial	1300	40
438	689	684	0.01	12	1	Minor Arterial	1300	40
439	691	682	0.332	12	1	Ramp	1500	35
440	692	693	0.319	12	1	Ramp	1500	35
441	362	365	0.146	12	1	Minor Arterial	1300	40
442	365	362	0.146	12	1	Minor Arterial	1300	40
443	490	323	0.081	12	1	Principal Arterial	1600	45
444	323	322	0.007	12	1	Collector / Local Road	1300	45
445	532	522	0.157	12	2	Principal Arterial	3200	45
446	526	695	0.505	12	1	Ramp	1500	35
447	529	526	0.05	12	1	Ramp	1500	35

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
448	527	529	0.047	12	2	Principal Arterial	3200	45
449	532	529	0.007	12	1	Collector / Local Road	1300	45
450	596	473	0.03	12	1	Principal Arterial	1600	45
451	699	698	0.846	12	2	Principal Arterial	3200	45
452	653	699	0.209	12	2	Principal Arterial	3200	45
453	700	311	0.319	12	3	Freeway	6150	65
454	334	701	0.009	12	1	Minor Arterial	1300	40
455	701	334	0.009	12	1	Minor Arterial	1300	40
456	701	360	0.496	12	2	Principal Arterial	3200	45
457	470	472	0.009	12	1	Collector / Local Road	1300	45
458	469	468	0.011	12	1	Collector / Local Road	1300	45
459	471	470	0.011	12	1	Collector / Local Road	1300	45
460	704	614	0.951	12	1	Ramp	1500	35
461	705	297	0.882	12	1	Ramp	1500	35
462	296	704	0.82	12	1	Ramp	1500	35
463	706	707	0.064	12	1	Major Arterial	1300	55
464	707	706	0.064	12	1	Major Arterial	1300	55
465	706	272	0.937	12	1	Ramp	1500	35
466	708	709	0.055	12	1	Major Arterial	1300	55
467	709	708	0.055	12	1	Major Arterial	1300	55
468	712	711	0.644	12	1	Ramp	1500	35
469	273	713	0.321	12	1	Ramp	1500	35
470	708	715	0.809	12	1	Ramp	1500	35
471	716	717	0.39	12	1	Ramp	1500	35
472	719	718	0.056	12	1	Ramp	1500	35
473	720	721	0.755	12	1	Ramp	1500	35
474	718	271	0.977	12	1	Ramp	1500	35
475	722	723	0.749	12	1	Ramp	1500	35
476	708	722	0.666	12	1	Major Arterial	1300	55
477	722	708	0.666	12	1	Major Arterial	1300	55
478	724	722	0.084	12	1	Ramp	1500	35
479	725	726	0.697	12	1	Ramp	1500	35
480	728	727	1.158	12	1	Ramp	1500	35
481	730	729	2.124	12	1	Ramp	1500	55
482	731	732	2.14	12	1	Ramp	1500	55
483	733	734	1.57	12	1	Ramp	1500	55
484	736	735	1.571	12	1	Ramp	1500	55
485	714	737	0.836	12	1	Ramp	1500	35
486	739	740	1.005	12	1	Major Arterial	1300	45
487	740	739	1.005	12	1	Major Arterial	1300	45
488	741	736	0.201	12	2	Freeway	4100	65
489	742	743	1.158	12	1	Major Arterial	1300	55
490	743	742	1.158	12	1	Major Arterial	1300	55
491	746	747	1.011	12	1	Ramp	1500	35
492	748	746	0.016	12	1	Ramp	1500	35
493	750	751	1.342	12	1	Ramp	1500	55
494	752	741	1.608	12	1	Ramp	1500	55
495	264	749	0.263	12	1	Ramp	1500	35
496	753	754	2.252	12	1	Ramp	1500	55
497	756	757	0.573	12	1	Ramp	1500	35
498	759	758	0.057	12	1	Ramp	1500	35
499	760	761	0.425	12	1	Ramp	1500	35
500	762	763	0.033	12	2	Major Arterial	2700	45
501	763	762	0.033	12	2	Major Arterial	2700	45
502	765	764	0.06	12	1	Ramp	1500	35
503	763	766	0.009	12	2	Major Arterial	2700	45

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
504	766	763	0.009	12	2	Major Arterial	2700	45
505	767	768	0.037	12	2	Major Arterial	2700	45
506	768	767	0.037	12	2	Major Arterial	2700	45
507	767	769	0.012	12	2	Major Arterial	2700	45
508	769	767	0.012	12	2	Major Arterial	2700	45
509	769	770	0.051	12	2	Major Arterial	2700	45
510	770	769	0.051	12	2	Major Arterial	2700	45
511	762	771	0.144	12	1	Ramp	1500	35
512	772	766	0.119	12	1	Ramp	1500	35
513	769	772	0.127	12	1	Ramp	1500	35
514	774	775	0.227	11	1	Major Arterial	1300	35
515	775	774	0.227	11	1	Major Arterial	1300	35
516	775	776	0.149	12	1	Collector / Local Road	1300	45
517	776	775	0.149	12	1	Collector / Local Road	1300	45
518	774	776	0.241	11	1	Major Arterial	1300	35
519	776	774	0.241	11	1	Major Arterial	1300	35
520	779	778	0.058	12	1	Ramp	1500	35
521	778	780	0.064	12	1	Principal Arterial	1600	45
522	780	778	0.064	12	1	Principal Arterial	1600	45
523	781	277	0.783	12	1	Ramp	1500	35
524	778	781	0.559	12	1	Principal Arterial	1600	35
525	781	778	0.559	12	1	Principal Arterial	1600	35
526	778	276	0.824	12	1	Ramp	1500	35
527	783	781	0.061	12	1	Ramp	1500	35
528	785	786	0.041	12	2	Principal Arterial	3200	45
529	786	785	0.041	12	2	Principal Arterial	3200	45
530	788	789	0.087	12	1	Principal Arterial	1600	30
531	789	788	0.087	12	1	Principal Arterial	1600	30
532	790	791	1.385	12	1	Ramp	1500	35
533	793	794	1.243	12	1	Ramp	1500	35
534	796	795	1.366	12	1	Ramp	1500	35
535	797	798	1.074	12	1	Ramp	1500	35
536	797	799	0.237	12	1	Major Arterial	1300	45
537	801	800	1.297	12	1	Ramp	1500	35
538	803	804	2.336	12	2	Freeway	4100	65
539	806	805	1.619	12	1	Ramp	1500	35
540	807	804	1.523	12	1	Ramp	1500	35
541	807	802	1.012	12	1	Principal Arterial	1600	55
542	808	807	0.438	12	1	Principal Arterial	1600	55
543	265	810	0.849	12	2	Principal Arterial	3200	45
544	811	265	0.033	12	1	Collector / Local Road	1300	45
545	812	811	0.847	12	2	Principal Arterial	3200	45
546	810	812	0.032	12	1	Collector / Local Road	1300	45
547	712	720	0.16	12	2	Principal Arterial	3200	40
548	720	712	0.16	12	2	Principal Arterial	3200	40
549	816	720	0.019	12	1	Ramp	1500	35
550	756	819	0.071	12	1	Major Arterial	1300	50
551	819	756	0.071	12	1	Major Arterial	1300	50
552	282	509	0.008	12	1	Collector / Local Road	1300	40
553	821	822	0.014	12	1	Principal Arterial	1600	45
554	822	821	0.014	12	1	Principal Arterial	1600	45
555	806	809	1.012	12	1	Principal Arterial	1600	55
556	824	806	0.442	12	1	Major Arterial	1300	45
557	809	807	0.018	12	1	Collector / Local Road	1300	45
558	802	806	0.019	12	1	Collector / Local Road	1300	45
559	826	801	0.116	12	1	Major Arterial	1300	45

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
560	799	801	0.006	12	1	Collector / Local Road	1300	40
561	801	799	0.006	12	1	Collector / Local Road	1300	40
562	797	828	0.006	12	1	Collector / Local Road	1300	40
563	828	797	0.006	12	1	Collector / Local Road	1300	40
564	829	790	0.405	12	1	Principal Arterial	1600	45
565	794	790	0.02	12	1	Collector / Local Road	1300	45
566	830	796	0.02	12	1	Collector / Local Road	1300	45
567	831	830	1.341	12	1	Ramp	1500	35
568	832	748	0.281	12	1	Ramp	1500	35
569	748	833	0.072	12	1	Ramp	1500	35
570	834	816	0.243	12	1	Ramp	1500	35
571	816	835	0.093	12	1	Ramp	1500	35
572	720	835	0.069	12	2	Principal Arterial	3200	40
573	835	720	0.069	12	2	Principal Arterial	3200	40
574	706	718	0.876	12	1	Major Arterial	1300	55
575	718	706	0.876	12	1	Major Arterial	1300	55
576	274	719	0.918	12	1	Ramp	1500	35
577	718	836	0.061	12	1	Major Arterial	1300	55
578	836	718	0.061	12	1	Major Arterial	1300	55
579	719	836	0.08	12	1	Ramp	1500	35
580	713	706	0.048	12	1	Ramp	1500	35
581	713	707	0.066	12	1	Ramp	1500	35
582	717	708	0.068	12	1	Ramp	1500	35
583	717	709	0.091	12	1	Ramp	1500	35
584	837	724	0.283	12	1	Ramp	1500	35
585	722	743	0.062	12	1	Major Arterial	1300	55
586	743	722	0.062	12	1	Major Arterial	1300	55
587	724	743	0.103	12	1	Ramp	1500	35
588	838	759	0.446	12	1	Ramp	1500	35
589	758	839	0.072	12	1	Major Arterial	1300	50
590	839	758	0.072	12	1	Major Arterial	1300	50
591	759	839	0.076	12	1	Ramp	1500	35
592	761	756	0.068	12	1	Ramp	1500	35
593	761	819	0.088	12	1	Ramp	1500	35
594	279	779	0.343	12	1	Ramp	1500	35
595	779	780	0.084	12	1	Ramp	1500	35
596	781	840	0.059	12	1	Principal Arterial	1600	35
597	840	781	0.059	12	1	Principal Arterial	1600	35
598	783	840	0.086	12	1	Ramp	1500	35
599	841	278	0.145	12	2	Freeway	4100	65
600	538	846	0.005	12	1	Collector / Local Road	1300	40
601	846	538	0.005	12	1	Collector / Local Road	1300	40
602	698	697	0.163	12	2	Principal Arterial	3200	45
603	546	548	0.126	12	1	Minor Arterial	1300	40
604	548	546	0.126	12	1	Minor Arterial	1300	40
605	559	560	0.39	12	1	Minor Arterial	1300	40
606	560	559	0.39	12	1	Minor Arterial	1300	40
607	239	589	0.658	12	1	Principal Arterial	1600	45
608	589	239	0.658	12	1	Principal Arterial	1600	45
609	784	851	0.511	12	1	Principal Arterial	1600	55
610	851	784	0.511	12	1	Principal Arterial	1600	55
611	129	130	0.926	12	2	Freeway	4100	65
612	855	856	0.168	12	1	Major Arterial	1300	45
613	856	855	0.168	12	1	Major Arterial	1300	45
614	858	859	0.244	12	1	Major Arterial	1300	55
615	859	858	0.244	12	1	Major Arterial	1300	55

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
616	861	860	0.511	12	2	Principal Arterial	3200	45
617	786	860	0.177	12	2	Principal Arterial	3200	45
618	860	786	0.177	12	2	Principal Arterial	3200	45
619	865	864	0.159	12	2	Principal Arterial	3200	45
620	864	866	0.859	12	1	Ramp	1500	55
621	867	864	0.011	12	1	Major Arterial	1300	50
622	868	869	0.257	12	1	Ramp	1500	55
623	869	870	0.01	12	1	Major Arterial	1300	50
624	869	863	0.27	12	2	Principal Arterial	3200	45
625	864	869	0.206	12	2	Principal Arterial	3200	45
626	872	866	1.398	12	2	Freeway	4100	65
627	873	874	4.46	12	1	Minor Arterial	1300	45
628	874	873	4.46	12	1	Minor Arterial	1300	45
629	878	879	0.633	12	1	Major Arterial	1300	45
630	879	878	0.633	12	1	Major Arterial	1300	45
631	228	880	0.195	12	1	Major Arterial	1300	55
632	880	228	0.195	12	1	Major Arterial	1300	55
633	223	880	0.487	11	1	Major Arterial	1300	35
634	880	223	0.487	11	1	Major Arterial	1300	35
635	216	881	0.268	12	1	Principal Arterial	1600	40
636	881	216	0.268	12	1	Principal Arterial	1600	40
637	248	881	0.668	12	1	Principal Arterial	1600	55
638	881	248	0.668	12	1	Principal Arterial	1600	55
639	335	360	0.008	12	1	Minor Arterial	1300	40
640	360	335	0.008	12	1	Minor Arterial	1300	40
641	575	886	0.031	12	2	Major Arterial	2700	45
642	886	575	0.031	12	2	Major Arterial	2700	45
643	890	891	0.725	12	1	Principal Arterial	1600	55
644	891	890	0.725	12	1	Principal Arterial	1600	55
645	890	892	0.024	12	1	Principal Arterial	1600	40
646	892	890	0.024	12	1	Principal Arterial	1600	40
647	893	894	0.552	12	1	Ramp	1500	35
648	852	893	0.476	12	1	Ramp	1500	35
649	893	895	0.512	12	2	Minor Arterial	2600	40
650	895	893	0.512	12	2	Minor Arterial	2600	40
651	899	900	0.009	12	1	Minor Arterial	1300	40
652	900	899	0.009	12	1	Minor Arterial	1300	40
653	901	902	0.903	12	1	Minor Arterial	1300	40
654	902	901	0.903	12	1	Minor Arterial	1300	40
655	906	907	0.291	12	1	Major Arterial	1300	45
656	907	906	0.291	12	1	Major Arterial	1300	45
657	910	911	0.113	12	1	Principal Arterial	1600	45
658	911	910	0.113	12	1	Principal Arterial	1600	45
659	912	913	0.227	12	1	Major Arterial	1300	45
660	913	912	0.227	12	1	Major Arterial	1300	45
661	910	914	0.427	12	1	Major Arterial	1300	45
662	914	910	0.427	12	1	Major Arterial	1300	45
663	918	919	0.678	12	1	Ramp	1500	35
664	919	920	0.683	12	1	Ramp	1500	35
665	921	922	0.672	12	1	Ramp	1500	35
666	923	921	0.701	12	1	Ramp	1500	35
667	925	926	0.067	11	1	Major Arterial	1300	30
668	926	925	0.067	11	1	Major Arterial	1300	30
669	930	932	0.097	10	1	Collector / Local Road	800	25
670	932	930	0.097	10	1	Collector / Local Road	800	25
671	942	943	0.05	11	1	Major Arterial	1300	25

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
672	943	942	0.05	11	1	Major Arterial	1300	25
673	949	950	0.246	12	1	Major Arterial	1300	45
674	950	949	0.246	12	1	Major Arterial	1300	45
675	953	956	0.322	12	1	Major Arterial	1300	45
676	956	953	0.322	12	1	Major Arterial	1300	45
677	956	957	0.18	12	1	Major Arterial	1300	55
678	957	956	0.18	12	1	Major Arterial	1300	55
679	961	962	0.967	12	1	Major Arterial	1300	55
680	962	961	0.967	12	1	Major Arterial	1300	55
681	958	967	0.999	12	1	Collector / Local Road	1300	40
682	967	958	0.999	12	1	Collector / Local Road	1300	40
683	973	974	0.555	12	1	Principal Arterial	1600	45
684	974	973	0.555	12	1	Principal Arterial	1600	45
685	966	974	0.504	11	1	Minor Arterial	1300	35
686	974	966	0.504	11	1	Minor Arterial	1300	35
687	974	975	0.993	12	1	Principal Arterial	1600	45
688	975	974	0.993	12	1	Principal Arterial	1600	45
689	967	975	0.5	12	1	Collector / Local Road	1300	40
690	975	967	0.5	12	1	Collector / Local Road	1300	40
691	977	978	0.752	12	1	Principal Arterial	1600	45
692	978	977	0.752	12	1	Principal Arterial	1600	45
693	980	981	1.01	12	1	Principal Arterial	1600	55
694	981	980	1.01	12	1	Principal Arterial	1600	55
695	983	984	1.001	12	1	Minor Arterial	1300	45
696	984	983	1.001	12	1	Minor Arterial	1300	45
697	982	986	0.209	12	1	Ramp	1500	35
698	988	989	0.815	12	1	Collector / Local Road	800	45
699	989	988	0.815	12	1	Collector / Local Road	800	45
700	988	990	0.503	12	1	Collector / Local Road	800	45
701	990	988	0.503	12	1	Collector / Local Road	800	45
702	891	980	1.005	12	1	Principal Arterial	1600	55
703	980	891	1.005	12	1	Principal Arterial	1600	55
704	997	998	0.01	12	1	Collector / Local Road	1300	40
705	998	997	0.01	12	1	Collector / Local Road	1300	40
706	999	1000	0.194	12	1	Major Arterial	1300	40
707	1000	999	0.194	12	1	Major Arterial	1300	40
708	1000	1001	0.669	12	1	Major Arterial	1300	50
709	1001	1000	0.669	12	1	Major Arterial	1300	50
710	1001	1004	0.841	12	1	Major Arterial	1300	50
711	1004	1001	0.841	12	1	Major Arterial	1300	50
712	1005	1006	0.55	11	1	Minor Arterial	1300	35
713	1006	1005	0.55	11	1	Minor Arterial	1300	35
714	1005	1007	0.042	12	1	Major Arterial	1300	45
715	1007	1005	0.042	12	1	Major Arterial	1300	45
716	1008	1009	2.406	12	1	Major Arterial	1300	40
717	1009	1008	2.406	12	1	Major Arterial	1300	40
718	856	1012	0.131	12	1	Major Arterial	1300	45
719	1012	856	0.131	12	1	Major Arterial	1300	45
720	856	1013	0.709	12	1	Ramp	1500	35
721	1014	855	0.247	12	1	Ramp	1500	35
722	855	1016	0.623	12	1	Ramp	1500	35
723	1018	856	0.3	12	1	Ramp	1500	35
724	1003	1007	0.745	12	1	Major Arterial	1300	45
725	1007	1003	0.745	12	1	Major Arterial	1300	45
726	1004	1009	0.578	12	1	Major Arterial	1300	50
727	1009	1004	0.578	12	1	Major Arterial	1300	50

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
728	1014	1016	1.32	12	2	Freeway	4100	65
729	976	978	0.395	12	1	Principal Arterial	1600	45
730	978	976	0.395	12	1	Principal Arterial	1600	45
731	877	962	0.953	12	1	Major Arterial	1300	55
732	962	877	0.953	12	1	Major Arterial	1300	55
733	919	921	0.638	12	1	Minor Arterial	1300	55
734	921	919	0.638	12	1	Minor Arterial	1300	55
735	923	922	1.234	12	2	Freeway	4100	65
736	918	920	1.227	12	2	Freeway	4100	65
737	926	927	0.476	11	1	Major Arterial	1300	30
738	927	926	0.476	11	1	Major Arterial	1300	30
739	963	964	0.772	11	1	Major Arterial	1300	30
740	964	963	0.772	11	1	Major Arterial	1300	30
741	852	894	0.94	12	2	Freeway	4100	65
742	270	893	0.238	12	2	Minor Arterial	2600	40
743	893	270	0.238	12	2	Minor Arterial	2600	40
744	949	1030	0.967	12	1	Major Arterial	1300	45
745	1030	949	0.967	12	1	Major Arterial	1300	45
746	243	1031	0.385	12	1	Major Arterial	1300	45
747	1031	243	0.385	12	1	Major Arterial	1300	45
748	987	989	0.697	12	1	Collector / Local Road	800	45
749	989	987	0.697	12	1	Collector / Local Road	800	45
750	957	1037	0.702	12	1	Major Arterial	1300	55
751	1037	957	0.702	12	1	Major Arterial	1300	55
752	960	1037	1.307	12	1	Principal Arterial	1600	55
753	1037	960	1.307	12	1	Principal Arterial	1600	55
754	947	948	0.267	12	1	Major Arterial	1300	50
755	948	947	0.267	12	1	Major Arterial	1300	50
756	959	960	0.497	12	1	Major Arterial	1300	55
757	960	959	0.497	12	1	Major Arterial	1300	55
758	960	981	1.503	12	1	Principal Arterial	1600	55
759	981	960	1.503	12	1	Principal Arterial	1600	55
760	979	981	2.003	12	1	Principal Arterial	1600	45
761	981	979	2.003	12	1	Principal Arterial	1600	45
762	977	979	0.016	12	1	Principal Arterial	1600	45
763	979	977	0.016	12	1	Principal Arterial	1600	45
764	1032	1033	0.299	12	1	Major Arterial	1300	40
765	1033	1032	0.299	12	1	Major Arterial	1300	40
766	919	1038	1.385	12	1	Collector / Local Road	1300	55
767	1038	919	1.385	12	1	Collector / Local Road	1300	55
768	945	955	2.283	12	1	Collector / Local Road	1300	45
769	955	945	2.283	12	1	Collector / Local Road	1300	45
770	1040	861	0.992	12	2	Principal Arterial	3200	45
771	984	996	2.008	12	1	Major Arterial	1300	45
772	996	984	2.008	12	1	Major Arterial	1300	45
773	1019	1042	0.355	12	1	Collector / Local Road	1300	40
774	1042	1019	0.355	12	1	Collector / Local Road	1300	40
775	921	929	1.257	12	1	Minor Arterial	1300	55
776	929	921	1.257	12	1	Minor Arterial	1300	55
777	950	1044	1.645	12	1	Collector / Local Road	800	50
778	1044	950	1.645	12	1	Collector / Local Road	800	50
779	1028	1045	3.407	12	1	Collector / Local Road	1300	40
780	1045	1028	3.407	12	1	Collector / Local Road	1300	40
781	909	1027	1.251	12	1	Major Arterial	1300	45
782	1027	909	1.251	12	1	Major Arterial	1300	45
783	876	928	3.662	12	1	Minor Arterial	1300	40

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
784	928	876	3.662	12	1	Minor Arterial	1300	40
785	874	1036	2.174	11	1	Minor Arterial	1300	35
786	1036	874	2.174	11	1	Minor Arterial	1300	35
787	946	954	1	12	1	Major Arterial	1300	45
788	954	946	1	12	1	Major Arterial	1300	45
789	900	904	1.169	12	1	Major Arterial	1300	45
790	904	900	1.169	12	1	Major Arterial	1300	45
791	904	908	1.197	12	1	Major Arterial	1300	45
792	908	904	1.197	12	1	Major Arterial	1300	45
793	898	903	1.004	12	1	Principal Arterial	1600	55
794	903	898	1.004	12	1	Principal Arterial	1600	55
795	870	867	0.204	12	2	Principal Arterial	3200	45
796	913	1046	0.659	12	1	Major Arterial	1300	45
797	1046	913	0.659	12	1	Major Arterial	1300	45
798	1006	1047	0.545	11	1	Minor Arterial	1300	35
799	1047	1006	0.545	11	1	Minor Arterial	1300	35
800	222	982	0.109	12	1	Principal Arterial	1600	45
801	982	222	0.109	12	1	Principal Arterial	1600	45
802	907	1027	1.868	12	1	Major Arterial	1300	45
803	1027	907	1.868	12	1	Major Arterial	1300	45
804	1053	1054	0.103	12	1	Major Arterial	1300	45
805	1054	1053	0.103	12	1	Major Arterial	1300	45
806	756	758	0.743	12	1	Major Arterial	1300	50
807	758	756	0.743	12	1	Major Arterial	1300	50
808	1082	1083	0.032	12	1	Major Arterial	1300	45
809	1083	1082	0.032	12	1	Major Arterial	1300	45
810	823	1088	0.147	12	2	Principal Arterial	3200	45
811	1088	823	0.147	12	2	Principal Arterial	3200	45
812	265	1091	0.267	12	1	Ramp	1500	35
813	1091	1092	1.103	12	1	Ramp	1500	35
814	1095	1096	0.152	12	1	Minor Arterial	1300	40
815	1096	1095	0.152	12	1	Minor Arterial	1300	40
816	1102	1103	0.1	12	1	Principal Arterial	1600	45
817	1103	1102	0.1	12	1	Principal Arterial	1600	45
818	1105	1106	0.186	12	1	Ramp	1500	35
819	1108	1107	0.339	12	1	Ramp	1500	35
820	1110	1105	0.015	12	1	Ramp	1500	35
821	1109	1111	0.034	12	1	Major Arterial	1300	45
822	1111	1109	0.034	12	1	Major Arterial	1300	45
823	1111	1105	0.024	12	1	Ramp	1500	35
824	1110	1111	0.017	12	1	Major Arterial	1300	45
825	1111	1110	0.017	12	1	Major Arterial	1300	45
826	1112	1111	0.024	12	1	Ramp	1500	35
827	1112	1110	0.018	12	1	Ramp	1500	35
828	1116	1117	0.013	12	1	Major Arterial	1300	45
829	1117	1116	0.013	12	1	Major Arterial	1300	45
830	1120	1121	0.119	12	2	Principal Arterial	3200	45
831	1122	1120	0.048	12	1	Ramp	1500	35
832	1122	1123	0.041	12	1	Ramp	1500	35
833	1123	1120	0.025	12	2	Principal Arterial	3200	45
834	1125	1124	0.56	12	1	Ramp	1500	35
835	1126	1127	0.875	12	1	Ramp	1500	35
836	1129	1130	0.041	12	1	Ramp	1500	35
837	1131	1129	0.215	12	1	Ramp	1500	35
838	1130	1133	0.053	12	2	Principal Arterial	3200	45
839	1129	1133	0.071	12	1	Ramp	1500	35

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
840	1148	1147	0.126	12	1	Ramp	1500	35
841	1149	1150	0.077	12	2	Principal Arterial	2800	25
842	1150	1149	0.077	12	2	Principal Arterial	2800	25
843	1148	1151	0.173	12	1	Freeway	2050	55
844	1147	1151	0.1	12	1	Ramp	1500	35
845	1147	1153	0.086	12	1	Ramp	1500	35
846	1153	1147	0.086	12	1	Ramp	1500	35
847	1153	1154	0.034	12	2	Principal Arterial	2800	30
848	1154	1153	0.034	12	2	Principal Arterial	2800	30
849	1157	1158	0.03	12	2	Principal Arterial	2800	35
850	1158	1157	0.03	12	2	Principal Arterial	3200	45
851	1158	1159	0.043	12	2	Principal Arterial	2800	35
852	1159	1158	0.043	12	2	Principal Arterial	2800	35
853	1161	1162	0.281	12	2	Principal Arterial	3200	40
854	1162	1161	0.281	12	2	Principal Arterial	3200	40
855	1164	1165	0.075	12	1	Collector / Local Road	1300	40
856	1165	1164	0.075	12	1	Collector / Local Road	1300	40
857	1166	1167	0.154	12	1	Ramp	1500	35
858	1171	1173	0.075	12	2	Major Arterial	2700	45
859	1173	1171	0.075	12	2	Major Arterial	2700	45
860	1175	1176	0.108	12	1	Minor Arterial	1300	40
861	1176	1175	0.108	12	1	Minor Arterial	1300	40
862	1176	1177	0.329	12	1	Minor Arterial	1300	40
863	1177	1176	0.329	12	1	Minor Arterial	1300	40
864	1179	1180	0.204	12	1	Collector / Local Road	1300	40
865	1180	1179	0.204	12	1	Collector / Local Road	1300	40
866	1185	1186	0.191	12	1	Ramp	1500	35
867	1187	1188	0.009	12	1	Major Arterial	1300	50
868	1191	1112	0.353	12	1	Ramp	1500	35
869	1107	1110	0.235	12	1	Principal Arterial	1600	45
870	1110	1107	0.235	12	1	Principal Arterial	1600	45
871	1193	1124	0.436	12	2	Freeway	4100	65
872	1121	1194	0.15	12	2	Principal Arterial	3200	45
873	1194	1125	0.014	12	2	Principal Arterial	3200	45
874	1123	1194	0.011	12	1	Minor Arterial	1300	40
875	1134	1195	0.062	12	2	Principal Arterial	3200	45
876	1130	1195	0.01	12	1	Minor Arterial	1300	40
877	1197	1067	0.376	12	1	Ramp	1500	35
878	842	843	0.011	12	1	Collector / Local Road	1300	40
879	843	842	0.011	12	1	Collector / Local Road	1300	40
880	1203	1204	0.025	12	1	Major Arterial	1300	45
881	1204	1203	0.025	12	1	Major Arterial	1300	45
882	264	745	0.251	12	2	Principal Arterial	3200	45
883	745	264	0.251	12	2	Principal Arterial	3200	45
884	902	1212	1.004	12	2	Collector / Local Road	2600	40
885	1212	902	1.004	12	2	Collector / Local Road	2600	40
886	1080	1223	0.146	11	1	Major Arterial	1300	35
887	1223	1080	0.146	11	1	Major Arterial	1300	35
888	1058	1225	0.002	11	1	Major Arterial	1300	35
889	1225	1058	0.002	11	1	Major Arterial	1300	35
890	764	1069	0.118	12	2	Principal Arterial	3200	45
891	1069	764	0.118	12	2	Principal Arterial	3200	45
892	1228	1227	2.227	12	1	Ramp	1500	55
893	1229	1197	0.184	12	1	Ramp	1500	35
894	750	1227	1.148	12	2	Freeway	4100	65
895	725	727	0.106	12	1	Major Arterial	1300	45

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
896	727	725	0.106	12	1	Major Arterial	1300	45
897	714	746	0.205	12	2	Major Arterial	2700	45
898	746	714	0.205	12	2	Major Arterial	2700	45
899	794	829	0.409	12	1	Principal Arterial	1600	45
900	809	808	0.439	12	1	Principal Arterial	1600	55
901	802	824	0.443	12	1	Major Arterial	1300	45
902	746	833	0.05	12	2	Major Arterial	2700	45
903	833	746	0.05	12	2	Major Arterial	2700	45
904	839	1231	0.368	12	1	Major Arterial	1300	50
905	1231	839	0.368	12	1	Major Arterial	1300	50
906	827	1094	0.109	12	1	Major Arterial	1300	45
907	1094	827	0.109	12	1	Major Arterial	1300	45
908	771	1235	0.025	12	1	Principal Arterial	1600	45
909	1235	771	0.025	12	1	Principal Arterial	1600	45
910	762	768	0.024	12	2	Major Arterial	2700	45
911	768	762	0.024	12	2	Major Arterial	2700	45
912	764	1236	0.008	12	2	Principal Arterial	3200	45
913	1236	764	0.008	12	2	Principal Arterial	3200	45
914	1236	1237	0.059	12	1	Ramp	1500	35
915	763	1238	0.029	12	1	Ramp	1500	35
916	1237	1069	0.117	12	1	Ramp	1500	35
917	1069	765	0.112	12	1	Ramp	1500	35
918	1235	1236	0.03	12	2	Principal Arterial	3200	45
919	1236	1235	0.03	12	2	Principal Arterial	3200	45
920	771	772	0.081	12	1	Principal Arterial	1600	45
921	772	771	0.081	12	1	Principal Arterial	1600	45
922	1237	1238	0.037	12	1	Ramp	1500	35
923	1238	1237	0.037	12	1	Ramp	1500	35
924	1238	762	0.033	12	1	Ramp	1500	35
925	1239	767	0.036	12	1	Ramp	1500	35
926	765	1239	0.037	12	1	Ramp	1500	35
927	1239	765	0.037	12	1	Ramp	1500	35
928	768	1239	0.039	12	1	Ramp	1500	35
929	1241	1242	0.7	12	1	Principal Arterial	1600	45
930	1242	1241	0.7	12	1	Principal Arterial	1600	45
931	1248	1249	0.165	12	1	Principal Arterial	1600	40
932	1249	1248	0.165	12	1	Principal Arterial	1600	40
933	785	862	0.359	12	1	Principal Arterial	1600	45
934	862	785	0.359	12	1	Principal Arterial	1600	45
935	641	1250	0.663	12	1	Major Arterial	1300	45
936	1250	641	0.663	12	1	Major Arterial	1300	45
937	1253	1252	0.065	12	2	Principal Arterial	3200	45
938	1247	1253	0.009	12	1	Major Arterial	1300	50
939	1253	1247	0.009	12	1	Major Arterial	1300	50
940	829	1102	0.142	12	1	Principal Arterial	1600	45
941	1102	829	0.142	12	1	Principal Arterial	1600	45
942	1118	1257	0.089	12	1	Major Arterial	1300	45
943	1257	1118	0.089	12	1	Major Arterial	1300	45
944	1131	1127	0.462	12	1	Freeway	2050	55
945	1186	1264	0.132	12	1	Ramp	1500	35
946	1264	1186	0.132	12	1	Ramp	1500	35
947	1264	1252	0.083	12	1	Ramp	1500	35
948	1253	1264	0.016	12	1	Major Arterial	1300	50
949	1264	1253	0.016	12	1	Major Arterial	1300	50
950	1265	1189	0.186	12	1	Ramp	1500	35
951	1184	1266	0.532	12	2	Principal Arterial	3200	45

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
952	1266	1253	0.059	12	2	Principal Arterial	3200	45
953	1266	1264	0.085	12	1	Major Arterial	1300	50
954	796	794	0.859	12	1	Principal Arterial	1600	55
955	1232	798	2.179	12	2	Freeway	4100	65
956	1126	1130	0.093	12	2	Principal Arterial	3200	45
957	280	1268	0.079	12	2	Major Arterial	2700	45
958	1268	280	0.079	12	2	Major Arterial	2700	45
959	576	1268	0.208	12	2	Major Arterial	2700	45
960	1268	576	0.208	12	2	Major Arterial	2700	45
961	1179	1260	0.353	12	1	Principal Arterial	1600	45
962	1260	1179	0.353	12	1	Principal Arterial	1600	45
963	1270	296	1.936	12	2	Freeway	4100	65
964	1025	1271	0.227	12	1	Major Arterial	1300	50
965	1271	1025	0.227	12	1	Major Arterial	1300	50
966	1271	1040	0.471	12	2	Principal Arterial	3200	45
967	861	1272	0.03	12	1	Major Arterial	1300	50
968	1273	1040	0.034	12	1	Major Arterial	1300	50
969	1274	1275	0.987	12	2	Freeway	4100	65
970	1013	1277	1.804	12	2	Freeway	4100	65
971	1277	1276	1.01	12	2	Freeway	4100	65
972	1273	1271	0.471	12	2	Principal Arterial	3200	45
973	1272	1273	0.991	12	2	Principal Arterial	3200	45
974	860	1272	0.511	12	2	Principal Arterial	3200	45
975	885	861	0.923	12	1	Ramp	1500	55
976	1040	884	1.123	12	1	Ramp	1500	55
977	799	826	0.116	12	1	Major Arterial	1300	45
978	801	828	0.237	12	1	Major Arterial	1300	45
979	1267	799	0.418	12	1	Ramp	1500	35
980	1232	828	0.386	12	1	Ramp	1500	35
981	1272	882	1.099	12	1	Ramp	1500	55
982	606	1280	0.09	12	2	Principal Arterial	3200	45
983	1280	606	0.09	12	2	Principal Arterial	3200	45
984	820	1285	0.017	12	1	Principal Arterial	1600	55
985	1285	820	0.017	12	2	Principal Arterial	3200	45
986	154	251	0.267	12	1	Collector / Local Road	1300	40
987	251	154	0.267	12	1	Collector / Local Road	1300	40
988	156	172	0.501	12	1	Principal Arterial	1600	55
989	172	156	0.501	12	1	Principal Arterial	1600	55
990	116	238	0.503	12	1	Principal Arterial	1600	55
991	238	116	0.503	12	1	Principal Arterial	1600	55
992	883	1273	1.004	12	1	Ramp	1500	55
993	1252	1187	0.503	12	2	Principal Arterial	3200	45
994	1117	1282	0.138	12	1	Major Arterial	1300	40
995	1282	1117	0.138	12	1	Major Arterial	1300	40
996	1138	1287	0.008	12	1	Principal Arterial	1600	45
997	1287	1138	0.008	12	1	Principal Arterial	1600	45
998	1258	1288	0.021	12	1	Principal Arterial	1600	45
999	1288	1258	0.021	12	1	Principal Arterial	1600	45
1000	821	1289	0.155	12	2	Minor Arterial	2600	40
1001	1289	821	0.155	12	2	Minor Arterial	2600	40
1002	1248	1290	0.085	12	1	Principal Arterial	1600	40
1003	1290	1248	0.085	12	1	Principal Arterial	1600	40
1004	1292	730	0.423	12	2	Freeway	4100	65
1005	1183	1293	0.293	10	2	Collector / Local Road	800	15
1006	1293	1183	0.293	10	1	Collector / Local Road	800	15
1007	1213	1294	0.118	12	1	Major Arterial	1300	55

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
1008	1294	1213	0.118	12	1	Major Arterial	1300	45
1009	1079	1294	0.532	12	1	Major Arterial	1300	55
1010	1294	1079	0.532	12	1	Major Arterial	1300	55
1011	1199	1211	0.006	12	1	Major Arterial	1300	45
1012	1211	1199	0.006	12	1	Major Arterial	1300	45
1013	1198	1296	0.043	12	1	Major Arterial	1300	55
1014	1296	1198	0.043	12	1	Major Arterial	1300	45
1015	1084	1299	0.062	12	1	Major Arterial	1300	55
1016	1299	1084	0.062	12	1	Major Arterial	1300	55
1017	755	1301	0.396	12	2	Principal Arterial	2800	35
1018	1301	755	0.396	12	2	Principal Arterial	2800	35
1019	1078	1302	0.032	12	1	Major Arterial	1300	55
1020	1302	1078	0.032	12	1	Major Arterial	1300	45
1021	657	1306	0.46	12	1	Principal Arterial	1600	45
1022	1306	657	0.46	12	1	Principal Arterial	1600	45
1023	555	702	0.221	12	1	Ramp	1500	35
1024	1308	554	0.286	12	1	Ramp	1500	35
1025	556	554	0.232	12	2	Principal Arterial	3200	45
1026	555	285	0.23	12	2	Principal Arterial	3200	45
1027	1308	702	0.469	12	2	Freeway	4100	65
1028	577	583	0.265	12	1	Ramp	1500	35
1029	288	582	0.992	12	1	Ramp	1500	35
1030	582	287	0.704	12	1	Ramp	1500	35
1031	583	290	0.207	12	1	Ramp	1500	35
1032	592	593	0.294	12	2	Freeway	4100	65
1033	305	612	0.255	12	2	Freeway	4100	65
1034	307	611	0.314	12	2	Freeway	4100	65
1035	310	610	0.195	12	3	Freeway	6150	65
1036	582	583	0.304	12	2	Principal Arterial	3200	45
1037	583	582	0.304	12	2	Principal Arterial	3200	45
1038	888	292	0.333	12	3	Freeway	6150	65
1039	609	317	0.467	12	2	Freeway	4100	65
1040	608	616	0.722	12	1	Major Arterial	1300	45
1041	616	608	0.722	12	1	Major Arterial	1300	45
1042	315	312	0.338	12	2	Freeway	4100	65
1043	704	705	0.512	12	2	Minor Arterial	2600	40
1044	705	704	0.512	12	2	Minor Arterial	2600	40
1045	538	542	0.244	12	2	Principal Arterial	3200	45
1046	541	846	0.245	12	2	Principal Arterial	3200	45
1047	329	521	0.607	12	1	Ramp	1500	35
1048	451	456	0.083	12	1	Collector / Local Road	1300	40
1049	456	451	0.083	12	1	Collector / Local Road	1300	40
1050	499	498	0.646	12	1	Ramp	1500	35
1051	1311	499	0.641	12	1	Ramp	1500	35
1052	333	478	0.697	12	1	Major Arterial	1300	50
1053	478	333	0.697	12	1	Major Arterial	1300	50
1054	329	505	1.273	12	2	Freeway	4100	60
1055	332	506	0.86	12	1	Ramp	1500	35
1056	514	525	0.16	12	2	Principal Arterial	3200	45
1057	525	514	0.16	12	2	Principal Arterial	3200	45
1058	517	1311	1.117	12	2	Freeway	4100	60
1059	530	1312	0.187	12	2	Freeway	4100	60
1060	1312	695	0.059	12	3	Freeway	6150	65
1061	493	491	1.075	12	3	Freeway	6150	65
1062	492	282	0.124	12	1	Minor Arterial	1300	40
1063	522	507	0.277	12	2	Principal Arterial	3200	45

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
1064	516	497	1.624	12	2	Freeway	4100	65
1065	486	515	0.273	12	1	Major Arterial	1300	45
1066	515	486	0.273	12	1	Major Arterial	1300	45
1067	193	195	0.217	12	1	Principal Arterial	1600	45
1068	195	193	0.217	12	1	Principal Arterial	1600	45
1069	232	234	2.342	12	1	Major Arterial	1300	45
1070	234	232	2.342	12	1	Major Arterial	1300	45
1071	136	142	0.529	12	1	Major Arterial	1300	45
1072	142	136	0.529	12	1	Major Arterial	1300	45
1073	254	257	0.465	12	1	Major Arterial	1300	45
1074	257	254	0.465	12	1	Major Arterial	1300	45
1075	175	174	0.295	12	2	Freeway	4100	65
1076	470	468	0.226	12	2	Principal Arterial	3200	45
1077	469	472	0.217	12	2	Principal Arterial	3200	45
1078	1315	1316	1.146	12	2	Minor Arterial	2600	35
1079	1279	1316	0.242	12	2	Principal Arterial	2800	35
1080	1316	1279	0.242	12	2	Principal Arterial	2800	35
1081	131	140	0.907	12	1	Principal Arterial	1600	45
1082	140	131	0.907	12	1	Principal Arterial	1600	45
1083	682	692	0.185	12	1	Principal Arterial	1600	55
1084	692	682	0.185	12	1	Principal Arterial	1600	55
1085	157	159	0.191	12	1	Principal Arterial	1600	45
1086	159	157	0.191	12	1	Principal Arterial	1600	45
1087	358	359	0.008	12	2	Minor Arterial	2600	40
1088	359	358	0.008	12	2	Minor Arterial	2600	40
1089	1314	1317	0.39	12	1	Ramp	1500	35
1090	1317	382	0.066	12	1	Ramp	1500	35
1091	386	1318	0.204	12	2	Principal Arterial	3200	45
1092	1318	386	0.204	12	2	Principal Arterial	3200	45
1093	382	1318	0.125	12	2	Principal Arterial	3200	45
1094	1318	382	0.125	12	2	Principal Arterial	3200	45
1095	1317	1318	0.035	12	1	Ramp	1500	35
1096	1313	1319	0.37	12	1	Ramp	1500	35
1097	376	1320	0.09	12	2	Principal Arterial	3200	45
1098	1320	376	0.09	12	2	Principal Arterial	3200	45
1099	375	1321	0.095	12	3	Principal Arterial	4800	45
1100	1321	375	0.095	12	3	Principal Arterial	4800	45
1101	1319	1321	0.041	12	1	Ramp	1500	35
1102	1319	1320	0.03	12	1	Ramp	1500	35
1103	1320	1321	0.047	12	2	Principal Arterial	3200	45
1104	1321	1320	0.047	12	2	Principal Arterial	3200	45
1105	1313	377	0.341	12	2	Freeway	4100	65
1106	378	337	0.382	12	1	Ramp	1500	35
1107	376	377	0.384	12	1	Ramp	1500	35
1108	600	1324	1.918	10	1	Collector / Local Road	800	15
1109	1324	600	1.918	10	1	Collector / Local Road	800	15
1110	599	1323	3.083	10	1	Collector / Local Road	800	15
1111	1323	599	3.083	10	1	Collector / Local Road	800	15
1112	1028	1322	1.749	10	1	Collector / Local Road	800	15
1113	1322	1028	1.749	10	1	Collector / Local Road	800	15
1114	879	1325	0.984	10	1	Collector / Local Road	800	15
1115	1325	879	0.984	10	1	Collector / Local Road	800	15
1116	917	1327	0.159	10	1	Collector / Local Road	800	15
1117	1327	917	0.159	10	1	Collector / Local Road	800	15
1118	913	1328	1.471	10	1	Collector / Local Road	800	15
1119	1328	913	1.471	10	1	Collector / Local Road	800	15

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
1120	930	1330	0.782	10	1	Collector / Local Road	800	15
1121	1330	930	0.782	10	1	Collector / Local Road	800	15
1122	915	1331	1.275	10	1	Collector / Local Road	800	15
1123	1331	915	1.275	10	1	Collector / Local Road	800	15
1124	904	1332	3.293	10	1	Collector / Local Road	800	15
1125	1332	904	3.293	10	1	Collector / Local Road	800	15
1126	903	1332	4.557	10	1	Collector / Local Road	800	15
1127	1332	903	4.557	10	1	Collector / Local Road	800	15
1128	116	1335	6.026	10	1	Collector / Local Road	800	15
1129	1335	116	6.026	10	1	Collector / Local Road	800	15
1130	113	1336	7.745	10	1	Collector / Local Road	800	15
1131	1336	113	7.745	10	1	Collector / Local Road	800	15
1132	1337	1339	3.878	10	1	Collector / Local Road	800	15
1133	1339	1337	3.878	10	1	Collector / Local Road	800	15
1134	239	1337	6.503	10	1	Collector / Local Road	800	15
1135	1337	239	6.503	10	1	Collector / Local Road	800	15
1136	1337	1338	3.309	10	1	Collector / Local Road	800	15
1137	1338	1337	3.309	10	1	Collector / Local Road	800	15
1138	269	1340	6.146	10	1	Collector / Local Road	800	15
1139	1340	269	6.146	10	1	Collector / Local Road	800	15
1140	280	1342	2.548	10	1	Collector / Local Road	800	15
1141	1342	280	2.548	10	1	Collector / Local Road	800	15
1142	588	1341	3.287	10	1	Collector / Local Road	800	15
1143	1341	588	3.287	10	1	Collector / Local Road	800	15
1144	640	1343	1.943	10	1	Collector / Local Road	800	15
1145	1343	640	1.943	10	1	Collector / Local Road	800	15
1146	652	1344	1.547	10	1	Collector / Local Road	800	15
1147	1344	652	1.547	10	1	Collector / Local Road	800	15
1148	662	1345	1.747	10	1	Collector / Local Road	800	15
1149	1345	662	1.747	10	1	Collector / Local Road	800	15
1150	631	1347	1.529	10	1	Collector / Local Road	800	15
1151	1347	631	1.529	10	1	Collector / Local Road	800	15
1152	657	1348	1.958	10	1	Collector / Local Road	800	15
1153	1348	657	1.958	10	1	Collector / Local Road	800	15
1154	669	1349	0.89	10	1	Collector / Local Road	800	15
1155	1349	669	0.89	10	1	Collector / Local Road	800	15
1156	630	1350	3.313	10	1	Collector / Local Road	800	15
1157	1350	630	3.313	10	1	Collector / Local Road	800	15
1158	1351	1352	2.068	10	1	Collector / Local Road	800	15
1159	1352	1351	2.068	10	1	Collector / Local Road	800	15
1160	628	1352	0.545	10	1	Collector / Local Road	800	15
1161	1352	628	0.545	10	1	Collector / Local Road	800	15
1162	629	1352	0.471	10	1	Collector / Local Road	800	15
1163	1352	629	0.471	10	1	Collector / Local Road	800	15
1164	1354	1355	1.547	11	2	Collector / Local Road	1600	15
1165	1355	1354	1.547	11	2	Collector / Local Road	1600	15
1166	1353	1354	4.008	12	2	Principal Arterial	2800	25
1167	1354	1353	4.008	12	2	Principal Arterial	2800	25
1168	857	1353	6.906	12	2	Principal Arterial	2800	35
1169	1353	857	6.906	12	2	Principal Arterial	2800	35
1170	141	1356	3.884	10	1	Collector / Local Road	800	15
1171	1356	141	3.884	10	1	Collector / Local Road	800	15
1172	1307	1357	2.374	10	1	Collector / Local Road	800	15
1173	1357	1307	2.374	10	1	Collector / Local Road	800	15
1174	166	1358	1.891	10	1	Collector / Local Road	800	15
1175	1358	166	1.891	10	1	Collector / Local Road	800	15

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
1176	165	1359	2.916	10	1	Collector / Local Road	800	15
1177	1359	165	2.916	10	1	Collector / Local Road	800	15
1178	168	1361	2.509	10	1	Collector / Local Road	800	15
1179	1361	168	2.509	10	1	Collector / Local Road	800	15
1180	169	1360	1.154	10	1	Collector / Local Road	800	15
1181	1360	169	1.154	10	1	Collector / Local Road	800	15
1182	180	1362	2.302	10	1	Collector / Local Road	800	15
1183	1362	180	2.302	10	1	Collector / Local Road	800	15
1184	146	1363	4.921	10	1	Collector / Local Road	800	15
1185	1363	146	4.921	10	1	Collector / Local Road	800	15
1186	1364	1365	1.936	10	1	Collector / Local Road	800	15
1187	1365	1364	1.936	10	1	Collector / Local Road	800	15
1188	243	1364	3.878	10	1	Collector / Local Road	800	15
1189	1364	243	3.878	10	1	Collector / Local Road	800	15
1190	958	1367	3.715	10	1	Collector / Local Road	800	15
1191	1367	958	3.715	10	1	Collector / Local Road	800	15
1192	972	1369	1.667	10	1	Collector / Local Road	800	15
1193	1369	972	1.667	10	1	Collector / Local Road	800	15
1194	970	1368	0.702	10	1	Collector / Local Road	800	15
1195	1368	970	0.702	10	1	Collector / Local Road	800	15
1196	969	1370	0.725	10	1	Collector / Local Road	800	15
1197	1370	969	0.725	10	1	Collector / Local Road	800	15
1198	204	1372	0.963	10	1	Collector / Local Road	800	15
1199	1372	204	0.963	10	1	Collector / Local Road	800	15
1200	220	1371	1.722	10	1	Collector / Local Road	800	15
1201	1371	220	1.722	10	1	Collector / Local Road	800	15
1202	206	1373	1.913	10	1	Collector / Local Road	800	15
1203	1373	206	1.913	10	1	Collector / Local Road	800	15
1204	223	1374	2.467	10	1	Collector / Local Road	800	15
1205	1374	223	2.467	10	1	Collector / Local Road	800	15
1206	996	1377	1.712	10	1	Collector / Local Road	800	15
1207	1377	996	1.712	10	1	Collector / Local Road	800	15
1208	996	1378	5.112	10	1	Collector / Local Road	800	15
1209	1378	996	5.112	10	1	Collector / Local Road	800	15
1210	1022	1380	0.874	10	1	Collector / Local Road	800	15
1211	1380	1022	0.874	10	1	Collector / Local Road	800	15
1212	1002	1381	3.299	10	1	Collector / Local Road	800	15
1213	1381	1002	3.299	10	1	Collector / Local Road	800	15
1214	994	1383	1.665	10	1	Collector / Local Road	800	15
1215	1383	994	1.665	10	1	Collector / Local Road	800	15
1216	890	1382	0.561	10	1	Collector / Local Road	800	15
1217	1382	890	0.561	10	1	Collector / Local Road	800	15
1218	992	1383	0.755	10	1	Collector / Local Road	800	15
1219	1383	992	0.755	10	1	Collector / Local Road	800	15
1220	990	1384	3.076	10	1	Collector / Local Road	800	15
1221	1384	990	3.076	10	1	Collector / Local Road	800	15
1222	987	1385	3.059	10	1	Collector / Local Road	800	15
1223	1385	987	3.059	10	1	Collector / Local Road	800	15
1224	957	1387	1.652	10	1	Collector / Local Road	800	15
1225	1387	957	1.652	10	1	Collector / Local Road	800	15
1226	952	1386	1.667	10	1	Collector / Local Road	800	15
1227	1386	952	1.667	10	1	Collector / Local Road	800	15
1228	957	1386	3.317	10	1	Collector / Local Road	800	15
1229	1386	957	3.317	10	1	Collector / Local Road	800	15
1230	959	1388	1.96	10	1	Collector / Local Road	800	15
1231	1388	959	1.96	10	1	Collector / Local Road	800	15

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
1232	995	1389	4.798	10	1	Collector / Local Road	800	15
1233	1389	995	4.798	10	1	Collector / Local Road	800	15
1234	908	1390	9.156	10	1	Collector / Local Road	800	15
1235	1390	908	9.156	10	1	Collector / Local Road	800	15
1236	1098	1391	0.794	10	2	Collector / Local Road	800	15
1237	1391	1098	0.794	10	1	Collector / Local Road	800	15
1238	214	1393	1.093	12	1	Minor Arterial	1300	40
1239	1393	214	1.093	12	1	Minor Arterial	1300	40
1240	849	850	0.065	10	1	Collector / Local Road	800	15
1241	850	849	0.065	10	1	Collector / Local Road	800	15
1242	606	1396	2.948	10	1	Collector / Local Road	800	15
1243	1396	606	2.948	10	1	Collector / Local Road	800	15
1244	119	1398	0.073	12	1	Minor Arterial	1300	40
1245	1398	119	0.073	12	1	Minor Arterial	1300	40
1246	934	935	0.095	12	2	Major Arterial	2700	35
1247	935	934	0.095	12	2	Major Arterial	2700	35
1248	366	367	0.021	10	1	Collector / Local Road	800	15
1249	1	1322	0.284	10	1	Collector / Local Road	800	25
1250	1322	1	0.284	10	1	Collector / Local Road	800	25
1251	2	1325	0.399	10	1	Collector / Local Road	800	25
1252	1325	2	0.399	10	1	Collector / Local Road	800	25
1253	3	1327	0.521	10	1	Collector / Local Road	800	25
1254	1327	3	0.521	10	1	Collector / Local Road	800	25
1255	4	1326	0.151	10	1	Collector / Local Road	800	25
1256	1326	4	0.151	10	1	Collector / Local Road	800	25
1257	5	1328	0.925	10	1	Collector / Local Road	800	25
1258	1328	5	0.925	10	1	Collector / Local Road	800	25
1259	6	1331	0.108	10	1	Collector / Local Road	800	25
1260	1331	6	0.108	10	1	Collector / Local Road	800	25
1261	7	1332	0.206	10	1	Collector / Local Road	800	25
1262	1332	7	0.206	10	1	Collector / Local Road	800	25
1263	8	1333	0.517	10	1	Collector / Local Road	800	25
1264	1333	8	0.517	10	1	Collector / Local Road	800	25
1265	9	1364	2.449	10	1	Collector / Local Road	800	25
1266	1364	9	2.449	10	1	Collector / Local Road	800	25
1267	10	1323	0.501	10	1	Collector / Local Road	800	25
1268	1323	10	0.501	10	1	Collector / Local Road	800	25
1269	11	1365	1.214	10	1	Collector / Local Road	800	25
1270	1365	11	1.214	10	1	Collector / Local Road	800	25
1271	12	954	1.457	10	1	Collector / Local Road	800	25
1272	954	12	1.457	10	1	Collector / Local Road	800	25
1273	13	1366	0.666	10	1	Collector / Local Road	800	25
1274	1366	13	0.666	10	1	Collector / Local Road	800	25
1275	14	1031	1.574	10	1	Collector / Local Road	800	25
1276	1031	14	1.574	10	1	Collector / Local Road	800	25
1277	15	933	0.168	10	1	Collector / Local Road	800	25
1278	933	15	0.168	10	1	Collector / Local Road	800	25
1279	16	932	0.4	10	1	Collector / Local Road	800	25
1280	932	16	0.4	10	1	Collector / Local Road	800	25
1281	17	1330	0.587	10	1	Collector / Local Road	800	25
1282	1330	17	0.587	10	1	Collector / Local Road	800	25
1283	18	1034	0.245	10	1	Collector / Local Road	800	25
1284	1034	18	0.245	10	1	Collector / Local Road	800	25
1285	19	938	0.302	10	1	Collector / Local Road	800	25
1286	938	19	0.302	10	1	Collector / Local Road	800	25
1287	20	1334	1.06	10	1	Collector / Local Road	800	25

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
1288	1334	20	1.06	10	1	Collector / Local Road	800	25
1289	21	121	2.477	10	1	Collector / Local Road	800	25
1290	121	21	2.477	10	1	Collector / Local Road	800	25
1291	22	1338	0.646	10	1	Collector / Local Road	800	25
1292	1338	22	0.646	10	1	Collector / Local Road	800	25
1293	23	1370	0.23	10	1	Collector / Local Road	800	25
1294	1370	23	0.23	10	1	Collector / Local Road	800	25
1295	24	1367	0.339	10	1	Collector / Local Road	800	25
1296	1367	24	0.339	10	1	Collector / Local Road	800	25
1297	25	1368	0.15	10	1	Collector / Local Road	800	25
1298	1368	25	0.15	10	1	Collector / Local Road	800	25
1299	26	1386	0.798	10	1	Collector / Local Road	800	25
1300	1386	26	0.798	10	1	Collector / Local Road	800	25
1301	27	1387	0.175	10	1	Collector / Local Road	800	25
1302	1387	27	0.175	10	1	Collector / Local Road	800	25
1303	28	1388	0.987	10	1	Collector / Local Road	800	25
1304	1388	28	0.987	10	1	Collector / Local Road	800	25
1305	29	1363	0.883	10	1	Collector / Local Road	800	25
1306	1363	29	0.883	10	1	Collector / Local Road	800	25
1307	30	1369	0.599	10	1	Collector / Local Road	800	25
1308	1369	30	0.599	10	1	Collector / Local Road	800	25
1309	31	1377	0.879	10	1	Collector / Local Road	800	25
1310	1377	31	0.879	10	1	Collector / Local Road	800	25
1311	32	1376	0.226	10	1	Collector / Local Road	800	25
1312	1376	32	0.226	10	1	Collector / Local Road	800	25
1313	33	1375	0.097	10	1	Collector / Local Road	800	25
1314	1375	33	0.097	10	1	Collector / Local Road	800	25
1315	34	1385	0.809	10	1	Collector / Local Road	800	25
1316	1385	34	0.809	10	1	Collector / Local Road	800	25
1317	35	1378	0.811	10	1	Collector / Local Road	800	25
1318	1378	35	0.811	10	1	Collector / Local Road	800	25
1319	36	1395	1.027	10	1	Collector / Local Road	800	25
1320	1395	36	1.027	10	1	Collector / Local Road	800	25
1321	37	1396	2.779	10	1	Collector / Local Road	800	25
1322	1396	37	2.779	10	1	Collector / Local Road	800	25
1323	38	1324	0.186	10	1	Collector / Local Road	800	25
1324	1324	38	0.186	10	1	Collector / Local Road	800	25
1325	39	1342	1.004	10	1	Collector / Local Road	800	25
1326	1342	39	1.004	10	1	Collector / Local Road	800	25
1327	40	1341	0.278	10	1	Collector / Local Road	800	25
1328	1341	40	0.278	10	1	Collector / Local Road	800	25
1329	41	1397	0.203	10	1	Collector / Local Road	800	25
1330	1397	41	0.203	10	1	Collector / Local Road	800	25
1331	42	1343	0.607	10	1	Collector / Local Road	800	25
1332	1343	42	0.607	10	1	Collector / Local Road	800	25
1333	43	594	1.216	10	1	Collector / Local Road	800	25
1334	594	43	1.216	10	1	Collector / Local Road	800	25
1335	44	1351	0.699	10	1	Collector / Local Road	800	25
1336	1351	44	0.699	10	1	Collector / Local Road	800	25
1337	45	1346	0.272	10	1	Collector / Local Road	800	25
1338	1346	45	0.272	10	1	Collector / Local Road	800	25
1339	46	1393	1.561	10	1	Collector / Local Road	800	25
1340	1393	46	1.561	10	1	Collector / Local Road	800	25
1341	47	1362	1.224	10	1	Collector / Local Road	800	25
1342	1362	47	1.224	10	1	Collector / Local Road	800	25
1343	48	181	0.168	10	1	Collector / Local Road	800	25

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
1344	181	48	0.168	10	1	Collector / Local Road	800	25
1345	49	1394	0.61	10	1	Collector / Local Road	800	25
1346	1394	49	0.61	10	1	Collector / Local Road	800	25
1347	50	1361	1.384	10	1	Collector / Local Road	800	25
1348	1361	50	1.384	10	1	Collector / Local Road	800	25
1349	51	1360	0.819	10	1	Collector / Local Road	800	25
1350	1360	51	0.819	10	1	Collector / Local Road	800	25
1351	52	1371	0.359	10	1	Collector / Local Road	800	25
1352	1371	52	0.359	10	1	Collector / Local Road	800	25
1353	52	1372	0.379	10	1	Collector / Local Road	800	25
1354	1372	52	0.379	10	1	Collector / Local Road	800	25
1355	53	1373	0.399	10	1	Collector / Local Road	800	25
1356	1373	53	0.399	10	1	Collector / Local Road	800	25
1357	54	211	0.172	10	1	Collector / Local Road	800	25
1358	211	54	0.172	10	1	Collector / Local Road	800	25
1359	55	203	0.783	10	1	Collector / Local Road	800	25
1360	203	55	0.783	10	1	Collector / Local Road	800	25
1361	56	230	2.797	10	1	Collector / Local Road	800	25
1362	230	56	2.797	10	1	Collector / Local Road	800	25
1363	57	241	2.022	10	1	Collector / Local Road	800	25
1364	241	57	2.022	10	1	Collector / Local Road	800	25
1365	58	1282	2.667	10	1	Collector / Local Road	800	25
1366	1282	58	2.667	10	1	Collector / Local Road	800	25
1367	59	1374	1.447	10	1	Collector / Local Road	800	25
1368	1374	59	1.447	10	1	Collector / Local Road	800	25
1369	60	1119	1.282	10	1	Collector / Local Road	800	25
1370	1119	60	1.282	10	1	Collector / Local Road	800	25
1371	61	1380	0.031	10	1	Collector / Local Road	800	25
1372	1380	61	0.031	10	1	Collector / Local Road	800	25
1373	62	1379	0.338	10	1	Collector / Local Road	800	25
1374	1379	62	0.338	10	1	Collector / Local Road	800	25
1375	63	1011	0.391	10	1	Collector / Local Road	800	25
1376	1011	63	0.391	10	1	Collector / Local Road	800	25
1377	64	1042	0.445	10	1	Collector / Local Road	800	25
1378	1042	64	0.445	10	1	Collector / Local Road	800	25
1379	65	1024	2.022	10	1	Collector / Local Road	800	25
1380	1024	65	2.022	10	1	Collector / Local Road	800	25
1381	66	1381	0.654	10	1	Collector / Local Road	800	25
1382	1381	66	0.654	10	1	Collector / Local Road	800	25
1383	67	1383	0.301	10	1	Collector / Local Road	800	25
1384	1383	67	0.301	10	1	Collector / Local Road	800	25
1385	68	1384	0.349	10	1	Collector / Local Road	800	25
1386	1384	68	0.349	10	1	Collector / Local Road	800	25
1387	69	1382	1.069	10	1	Collector / Local Road	800	25
1388	1382	69	1.069	10	1	Collector / Local Road	800	25
1389	70	1389	1.419	10	1	Collector / Local Road	800	25
1390	1389	70	1.419	10	1	Collector / Local Road	800	25
1391	71	877	0.799	10	1	Collector / Local Road	800	25
1392	877	71	0.799	10	1	Collector / Local Road	800	25
1393	72	1035	1.167	10	1	Collector / Local Road	800	25
1394	1035	72	1.167	10	1	Collector / Local Road	800	25
1395	73	1329	0.267	10	1	Collector / Local Road	800	25
1396	1329	73	0.267	10	1	Collector / Local Road	800	25
1397	74	1390	0.531	10	1	Collector / Local Road	800	25
1398	1390	74	0.531	10	1	Collector / Local Road	800	25
1399	75	1398	0.985	10	1	Collector / Local Road	800	25

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
1400	1398	75	0.985	10	1	Collector / Local Road	800	25
1401	76	1286	0.942	10	1	Collector / Local Road	800	25
1402	1286	76	0.942	10	1	Collector / Local Road	800	25
1403	77	1335	4.457	10	1	Collector / Local Road	800	25
1404	1335	77	4.457	10	1	Collector / Local Road	800	25
1405	78	1336	1.857	10	1	Collector / Local Road	800	25
1406	1336	78	1.857	10	1	Collector / Local Road	800	25
1407	79	1339	2.722	10	1	Collector / Local Road	800	25
1408	1339	79	2.722	10	1	Collector / Local Road	800	25
1409	80	1340	1.234	10	1	Collector / Local Road	800	25
1410	1340	80	1.234	10	1	Collector / Local Road	800	25
1411	81	561	0.601	10	1	Collector / Local Road	800	25
1412	561	81	0.601	10	1	Collector / Local Road	800	25
1413	82	374	1.386	10	1	Collector / Local Road	800	25
1414	374	82	1.386	10	1	Collector / Local Road	800	25
1415	83	573	0.128	10	1	Collector / Local Road	800	25
1416	573	83	0.128	10	1	Collector / Local Road	800	25
1417	84	407	0.349	10	1	Collector / Local Road	800	25
1418	407	84	0.349	10	1	Collector / Local Road	800	25
1419	85	458	0.166	10	1	Collector / Local Road	800	25
1420	458	85	0.166	10	1	Collector / Local Road	800	25
1421	86	651	0.238	10	1	Collector / Local Road	800	25
1422	651	86	0.238	10	1	Collector / Local Road	800	25
1423	87	1250	1.647	10	1	Collector / Local Road	800	25
1424	1250	87	1.647	10	1	Collector / Local Road	800	25
1425	88	1344	0.83	10	1	Collector / Local Road	800	25
1426	1344	88	0.83	10	1	Collector / Local Road	800	25
1427	89	1345	1.264	10	1	Collector / Local Road	800	25
1428	1345	89	1.264	10	1	Collector / Local Road	800	25
1429	90	1347	0.266	10	1	Collector / Local Road	800	25
1430	1347	90	0.266	10	1	Collector / Local Road	800	25
1431	91	1348	0.622	10	1	Collector / Local Road	800	25
1432	1348	91	0.622	10	1	Collector / Local Road	800	25
1433	92	1349	0.158	10	1	Collector / Local Road	800	25
1434	1349	92	0.158	10	1	Collector / Local Road	800	25
1435	93	1350	1.391	10	1	Collector / Local Road	800	25
1436	1350	93	1.391	10	1	Collector / Local Road	800	25
1437	94	1356	0.318	10	1	Collector / Local Road	800	25
1438	1356	94	0.318	10	1	Collector / Local Road	800	25
1439	95	1358	1.018	10	1	Collector / Local Road	800	25
1440	1358	95	1.018	10	1	Collector / Local Road	800	25
1441	96	1359	1.08	10	1	Collector / Local Road	800	25
1442	1359	96	1.08	10	1	Collector / Local Road	800	25
1443	97	1357	0.385	10	1	Collector / Local Road	800	25
1444	1357	97	0.385	10	1	Collector / Local Road	800	25
1445	98	363	1.491	10	1	Collector / Local Road	800	25
1446	363	98	1.491	10	1	Collector / Local Road	800	25
1447	99	1278	2.025	10	1	Collector / Local Road	800	25
1448	1278	99	2.025	10	1	Collector / Local Road	800	25
1449	100	415	1.093	10	1	Collector / Local Road	800	25
1450	415	100	1.093	10	1	Collector / Local Road	800	25
1451	101	1392	0.167	10	1	Collector / Local Road	800	25
1452	1392	101	0.167	10	1	Collector / Local Road	800	25
1453	102	1210	0.08	10	1	Collector / Local Road	800	25
1454	1210	102	0.08	10	1	Collector / Local Road	800	25
1455	103	1208	0.198	10	1	Collector / Local Road	800	25

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
1456	1208	103	0.198	10	1	Collector / Local Road	800	25
1457	104	1207	0.416	10	1	Collector / Local Road	800	25
1458	1207	104	0.416	10	1	Collector / Local Road	800	25
1459	105	1073	0.365	10	1	Collector / Local Road	800	25
1460	1073	105	0.365	10	1	Collector / Local Road	800	25
1461	106	1068	1.181	10	1	Collector / Local Road	800	25
1462	1068	106	1.181	10	1	Collector / Local Road	800	25
1463	107	1355	1.065	10	1	Collector / Local Road	800	25
1464	1355	107	1.065	10	1	Collector / Local Road	800	25
1465	108	1391	0.218	10	1	Collector / Local Road	800	25
1466	1391	108	0.218	10	2	Collector / Local Road	800	25
1467	109	1205	0.635	10	1	Collector / Local Road	800	25
1468	1205	109	0.635	10	1	Collector / Local Road	800	25
1469	110	1293	0.496	10	1	Collector / Local Road	800	25
1470	1293	110	0.496	10	2	Collector / Local Road	800	25
1471	369	1399	1.966	12	2	Freeway	4100	65
1472	1090	1400	1.02	12	2	Freeway	4100	65
1473	117	118	2.703	12	1	Principal Arterial	1600	55
1474	118	117	2.703	12	1	Principal Arterial	1600	55
1475	111	121	4.326	12	1	Major Arterial	1300	45
1476	121	111	4.326	12	1	Major Arterial	1300	45
1477	118	120	0.168	11	1	Minor Arterial	1300	30
1478	120	118	0.168	11	1	Minor Arterial	1300	30
1479	120	122	0.663	11	1	Collector / Local Road	1300	30
1480	122	120	0.663	11	1	Collector / Local Road	1300	30
1481	122	237	0.347	12	1	Collector / Local Road	1300	40
1482	237	122	0.347	12	1	Collector / Local Road	1300	40
1483	123	1286	2.079	12	1	Major Arterial	1300	45
1484	1286	123	2.079	12	1	Major Arterial	1300	45
1485	119	1216	6.241	12	1	Principal Arterial	1600	55
1486	1216	119	6.241	12	1	Principal Arterial	1600	55
1487	125	898	2.016	12	1	Principal Arterial	1600	55
1488	898	125	2.016	12	1	Principal Arterial	1600	55
1489	126	900	1.996	12	1	Major Arterial	1300	45
1490	900	126	1.996	12	1	Major Arterial	1300	45
1491	133	138	3.216	12	1	Principal Arterial	1600	55
1492	138	133	3.216	12	1	Principal Arterial	1600	55
1493	146	243	1.958	12	1	Major Arterial	1300	45
1494	243	146	1.958	12	1	Major Arterial	1300	45
1495	133	176	2.008	12	1	Principal Arterial	1600	55
1496	176	133	2.008	12	1	Principal Arterial	1600	55
1497	155	850	2.529	12	2	Principal Arterial	3650	55
1498	154	156	2.335	11	1	Minor Arterial	1300	35
1499	156	154	2.335	11	1	Minor Arterial	1300	35
1500	161	162	1.997	12	1	Principal Arterial	1600	55
1501	162	161	1.997	12	1	Principal Arterial	1600	55
1502	164	176	4.016	12	1	Major Arterial	1300	45
1503	176	164	4.016	12	1	Major Arterial	1300	45
1504	164	1307	1.996	12	1	Major Arterial	1300	45
1505	1307	164	1.996	12	1	Major Arterial	1300	45
1506	165	1307	1.996	12	1	Major Arterial	1300	45
1507	1307	165	1.996	12	1	Major Arterial	1300	45
1508	167	168	1.808	12	1	Major Arterial	1300	45
1509	168	167	1.808	12	1	Major Arterial	1300	45
1510	170	250	0.147	12	1	Collector / Local Road	1300	40
1511	250	170	0.147	12	1	Collector / Local Road	1300	40

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
1512	176	186	2.017	12	1	Principal Arterial	1600	55
1513	186	176	2.017	12	1	Principal Arterial	1600	55
1514	171	177	0.599	12	1	Principal Arterial	1600	30
1515	177	171	0.599	12	1	Principal Arterial	1600	30
1516	177	178	0.125	12	1	Principal Arterial	1600	30
1517	178	177	0.125	12	1	Principal Arterial	1600	30
1518	178	179	0.125	12	1	Principal Arterial	1600	30
1519	179	178	0.125	12	1	Principal Arterial	1600	30
1520	179	180	0.439	12	1	Principal Arterial	1600	30
1521	180	179	0.439	12	1	Principal Arterial	1600	30
1522	179	181	0.242	11	1	Major Arterial	1300	30
1523	181	179	0.242	11	1	Major Arterial	1300	30
1524	180	249	0.245	12	1	Principal Arterial	1600	35
1525	249	180	0.245	12	1	Principal Arterial	1600	35
1526	173	182	1.155	12	1	Major Arterial	1300	45
1527	182	173	1.155	12	1	Major Arterial	1300	45
1528	181	183	0.282	11	1	Major Arterial	1300	30
1529	183	181	0.282	11	1	Major Arterial	1300	30
1530	189	190	0.539	12	1	Minor Arterial	1300	40
1531	190	189	0.539	12	1	Minor Arterial	1300	40
1532	201	202	0.125	12	1	Major Arterial	1300	40
1533	202	201	0.125	12	1	Major Arterial	1300	40
1534	203	226	1.213	12	1	Major Arterial	1300	55
1535	226	203	1.213	12	1	Major Arterial	1300	55
1536	202	204	0.374	12	1	Major Arterial	1300	40
1537	204	202	0.374	12	1	Major Arterial	1300	40
1538	204	209	0.333	12	1	Major Arterial	1300	40
1539	209	204	0.333	12	1	Major Arterial	1300	40
1540	205	208	0.165	11	1	Major Arterial	1300	30
1541	208	205	0.165	11	1	Major Arterial	1300	30
1542	207	209	0.368	11	1	Major Arterial	1300	30
1543	209	207	0.368	11	1	Major Arterial	1300	30
1544	208	210	0.097	12	1	Principal Arterial	1600	30
1545	210	208	0.097	12	1	Principal Arterial	1600	30
1546	212	982	0.363	12	1	Ramp	1500	35
1547	209	219	0.296	12	1	Collector / Local Road	1300	40
1548	219	209	0.296	12	1	Collector / Local Road	1300	40
1549	213	214	0.286	12	1	Principal Arterial	1600	55
1550	214	213	0.286	12	1	Principal Arterial	1600	55
1551	214	248	1.989	12	1	Principal Arterial	1600	55
1552	248	214	1.989	12	1	Principal Arterial	1600	55
1553	208	224	0.773	12	1	Principal Arterial	1600	45
1554	224	208	0.773	12	1	Principal Arterial	1600	45
1555	219	220	0.5	12	1	Collector / Local Road	1300	45
1556	220	219	0.5	12	1	Collector / Local Road	1300	45
1557	220	259	0.425	12	1	Collector / Local Road	1300	45
1558	259	220	0.425	12	1	Collector / Local Road	1300	45
1559	226	231	2.883	12	1	Major Arterial	1300	40
1560	231	226	2.883	12	1	Major Arterial	1300	40
1561	227	228	0.045	12	1	Collector / Local Road	1300	40
1562	228	227	0.045	12	1	Collector / Local Road	1300	40
1563	235	240	4.908	12	1	Principal Arterial	1600	55
1564	240	235	4.908	12	1	Principal Arterial	1600	55
1565	198	968	0.416	12	1	Principal Arterial	1600	45
1566	968	198	0.416	12	1	Principal Arterial	1600	45
1567	141	164	2.012	12	1	Minor Arterial	1300	40

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
1568	164	141	2.012	12	1	Minor Arterial	1300	40
1569	237	1398	0.545	12	1	Minor Arterial	1300	40
1570	1398	237	0.545	12	1	Minor Arterial	1300	40
1571	183	187	0.676	11	1	Major Arterial	1300	35
1572	187	183	0.676	11	1	Major Arterial	1300	35
1573	170	178	0.812	12	1	Collector / Local Road	1300	40
1574	178	170	0.812	12	1	Collector / Local Road	1300	40
1575	170	172	0.791	12	1	Collector / Local Road	1300	40
1576	172	170	0.791	12	1	Collector / Local Road	1300	40
1577	230	232	2.919	12	1	Major Arterial	1300	45
1578	232	230	2.919	12	1	Major Arterial	1300	45
1579	229	233	0.65	12	1	Principal Arterial	1600	35
1580	233	229	0.65	12	1	Principal Arterial	1600	35
1581	210	223	0.431	11	1	Major Arterial	1300	35
1582	223	210	0.431	11	1	Major Arterial	1300	35
1583	144	154	1.588	12	1	Major Arterial	1300	45
1584	154	144	1.588	12	1	Major Arterial	1300	45
1585	218	224	0.319	12	1	Collector / Local Road	1300	45
1586	224	218	0.319	12	1	Collector / Local Road	1300	45
1587	192	201	0.869	12	1	Major Arterial	1300	45
1588	201	192	0.869	12	1	Major Arterial	1300	45
1589	231	234	4.87	12	1	Major Arterial	1300	55
1590	234	231	4.87	12	1	Major Arterial	1300	55
1591	182	261	1.561	12	1	Major Arterial	1300	45
1592	261	182	1.561	12	1	Major Arterial	1300	45
1593	249	1393	1.995	12	1	Minor Arterial	1300	40
1594	1393	249	1.995	12	1	Minor Arterial	1300	40
1595	191	242	0.984	12	1	Major Arterial	1300	45
1596	242	191	0.984	12	1	Major Arterial	1300	45
1597	253	143	0.858	12	2	Freeway	4100	65
1598	137	148	0.366	12	2	Freeway	4100	65
1599	985	260	0.201	12	1	Ramp	1500	35
1600	111	112	7.042	12	1	Principal Arterial	1600	55
1601	112	111	7.042	12	1	Principal Arterial	1600	55
1602	264	1226	0.728	12	2	Principal Arterial	3200	45
1603	1226	264	0.728	12	2	Principal Arterial	3200	45
1604	273	272	1.358	12	2	Freeway	4100	65
1605	274	271	1.347	12	2	Freeway	4100	65
1606	276	275	0.245	12	2	Freeway	4100	65
1607	278	277	0.555	12	2	Freeway	4100	65
1608	279	276	0.585	12	2	Freeway	4100	65
1609	282	281	0.149	12	1	Minor Arterial	1300	40
1610	283	531	0.499	12	1	Collector / Local Road	1300	40
1611	531	283	0.499	12	1	Collector / Local Road	1300	40
1612	196	200	0.433	12	2	Freeway	4100	65
1613	199	194	0.43	12	2	Freeway	4100	65
1614	153	253	0.972	12	2	Freeway	4100	65
1615	148	256	1.067	12	2	Freeway	4100	65
1616	135	137	0.228	12	2	Freeway	4100	65
1617	143	145	0.258	12	2	Freeway	4100	65
1618	160	163	0.471	12	2	Freeway	4100	65
1619	263	158	0.494	12	2	Freeway	4100	65
1620	285	286	0.264	12	2	Principal Arterial	3200	45
1621	288	287	0.506	12	2	Freeway	4100	65
1622	289	888	0.634	12	2	Freeway	4100	65
1623	291	887	0.447	12	3	Freeway	6150	65

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
1624	295	294	0.667	12	3	Freeway	6150	65
1625	296	614	1.617	12	2	Freeway	4100	65
1626	299	298	0.234	12	2	Freeway	4100	65
1627	533	300	0.047	12	2	Freeway	4100	65
1628	304	303	0.475	12	3	Freeway	6150	65
1629	306	305	0.66	12	2	Freeway	4100	65
1630	308	307	0.737	12	2	Freeway	4100	65
1631	294	309	0.218	12	3	Freeway	6150	65
1632	311	310	0.242	12	3	Freeway	6150	65
1633	313	314	0.41	12	2	Freeway	4100	65
1634	617	315	1.09	12	2	Freeway	4100	65
1635	316	617	0.493	12	2	Freeway	4100	65
1636	318	319	0.446	12	2	Freeway	4100	65
1637	320	321	0.261	12	2	Freeway	4100	65
1638	322	480	0.273	12	1	Principal Arterial	1600	45
1639	323	527	0.122	12	2	Principal Arterial	3200	45
1640	695	326	0.117	12	3	Freeway	6150	65
1641	521	330	0.307	12	1	Major Arterial	1300	50
1642	498	331	0.744	12	1	Minor Arterial	1300	40
1643	333	332	0.26	12	1	Major Arterial	1300	50
1644	1314	337	0.348	12	2	Freeway	4100	65
1645	602	613	1.14	12	1	Major Arterial	1300	45
1646	613	602	1.14	12	1	Major Arterial	1300	45
1647	351	854	0.847	12	1	Major Arterial	1300	45
1648	854	351	0.847	12	1	Major Arterial	1300	45
1649	357	375	0.556	12	3	Principal Arterial	4800	45
1650	375	357	0.556	12	3	Principal Arterial	4800	45
1651	364	595	1.009	12	2	Minor Arterial	2600	40
1652	595	364	1.009	12	2	Minor Arterial	2600	40
1653	361	365	1.003	12	1	Major Arterial	1300	45
1654	365	361	1.003	12	1	Major Arterial	1300	45
1655	366	359	0.272	12	2	Principal Arterial	3200	45
1656	334	370	1.011	12	2	Principal Arterial	3200	45
1657	371	373	1.054	12	1	Principal Arterial	1600	45
1658	373	371	1.054	12	1	Principal Arterial	1600	45
1659	373	374	1.771	12	1	Collector / Local Road	1300	40
1660	374	373	1.771	12	1	Collector / Local Road	1300	40
1661	373	380	1.002	12	2	Principal Arterial	3200	45
1662	380	373	1.002	12	2	Principal Arterial	3200	45
1663	377	338	1.069	12	2	Freeway	4100	65
1664	376	378	0.083	12	2	Principal Arterial	3200	45
1665	378	376	0.083	12	2	Principal Arterial	3200	45
1666	380	381	0.708	12	1	Major Arterial	1300	45
1667	381	380	0.708	12	1	Major Arterial	1300	45
1668	342	381	1.002	12	1	Major Arterial	1300	45
1669	381	342	1.002	12	1	Major Arterial	1300	45
1670	383	595	0.988	12	1	Major Arterial	1300	45
1671	595	383	0.988	12	1	Major Arterial	1300	45
1672	383	388	0.917	12	1	Major Arterial	1300	45
1673	388	383	0.917	12	1	Major Arterial	1300	45
1674	384	390	0.623	12	2	Major Arterial	2700	45
1675	390	384	0.623	12	2	Major Arterial	2700	45
1676	390	391	1.251	12	2	Major Arterial	2700	45
1677	391	390	1.251	12	2	Major Arterial	2700	45
1678	400	595	0.506	12	1	Minor Arterial	1300	40
1679	595	400	0.506	12	1	Minor Arterial	1300	40

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
1680	386	399	0.731	12	2	Principal Arterial	3200	45
1681	399	386	0.731	12	2	Principal Arterial	3200	45
1682	401	402	0.067	12	1	Major Arterial	1300	45
1683	402	401	0.067	12	1	Major Arterial	1300	45
1684	390	417	1.124	12	1	Collector / Local Road	1300	40
1685	417	390	1.124	12	1	Collector / Local Road	1300	40
1686	381	404	1.007	12	1	Collector / Local Road	1300	40
1687	404	381	1.007	12	1	Collector / Local Road	1300	40
1688	396	405	0.637	12	1	Collector / Local Road	1300	40
1689	405	396	0.637	12	1	Collector / Local Road	1300	40
1690	342	404	1.41	12	1	Principal Arterial	1600	45
1691	404	342	1.41	12	1	Principal Arterial	1600	45
1692	402	406	0.56	12	1	Major Arterial	1300	45
1693	406	402	0.56	12	1	Major Arterial	1300	45
1694	380	409	1.081	12	1	Principal Arterial	1600	45
1695	409	380	1.081	12	1	Principal Arterial	1600	45
1696	404	409	0.835	12	1	Minor Arterial	1300	40
1697	409	404	0.835	12	1	Minor Arterial	1300	40
1698	404	407	0.494	12	1	Minor Arterial	1300	40
1699	407	404	0.494	12	1	Minor Arterial	1300	40
1700	408	410	0.028	12	1	Major Arterial	1300	45
1701	410	408	0.028	12	1	Major Arterial	1300	45
1702	407	571	0.87	12	1	Minor Arterial	1300	40
1703	571	407	0.87	12	1	Minor Arterial	1300	40
1704	410	411	0.028	12	1	Collector / Local Road	1300	40
1705	409	413	0.177	12	1	Principal Arterial	1600	45
1706	413	409	0.177	12	1	Principal Arterial	1600	45
1707	415	416	0.53	12	1	Major Arterial	1300	45
1708	416	415	0.53	12	1	Major Arterial	1300	45
1709	402	427	0.822	12	1	Major Arterial	1300	45
1710	427	402	0.822	12	1	Major Arterial	1300	45
1711	403	426	0.625	12	1	Minor Arterial	1300	40
1712	426	403	0.625	12	1	Minor Arterial	1300	40
1713	415	426	0.596	12	1	Major Arterial	1300	45
1714	426	415	0.596	12	1	Major Arterial	1300	45
1715	418	419	0.401	12	1	Collector / Local Road	1300	40
1716	419	418	0.401	12	1	Collector / Local Road	1300	40
1717	419	421	0.123	12	1	Collector / Local Road	1300	40
1718	421	419	0.123	12	1	Collector / Local Road	1300	40
1719	404	422	0.497	12	1	Collector / Local Road	1300	40
1720	422	404	0.497	12	1	Collector / Local Road	1300	40
1721	391	424	1.307	12	1	Major Arterial	1300	45
1722	424	391	1.307	12	1	Major Arterial	1300	45
1723	411	428	0.54	12	1	Collector / Local Road	1300	40
1724	428	411	0.54	12	1	Collector / Local Road	1300	40
1725	422	423	1.446	12	1	Collector / Local Road	1300	40
1726	423	422	1.446	12	1	Collector / Local Road	1300	40
1727	418	434	0.258	12	1	Principal Arterial	1600	45
1728	434	418	0.258	12	1	Principal Arterial	1600	45
1729	400	440	1.093	12	1	Minor Arterial	1300	40
1730	440	400	1.093	12	1	Minor Arterial	1300	40
1731	422	430	0.167	12	1	Collector / Local Road	1300	40
1732	430	422	0.167	12	1	Collector / Local Road	1300	40
1733	409	437	0.673	12	1	Collector / Local Road	1300	40
1734	437	409	0.673	12	1	Collector / Local Road	1300	40
1735	427	428	0.506	12	2	Principal Arterial	3200	45

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
1736	428	427	0.506	12	2	Principal Arterial	3200	45
1737	436	419	0.249	12	1	Principal Arterial	1600	45
1738	420	438	0.252	12	1	Principal Arterial	1600	45
1739	404	431	0.887	12	1	Principal Arterial	1600	45
1740	431	404	0.887	12	1	Principal Arterial	1600	45
1741	430	431	0.491	12	1	Collector / Local Road	1300	40
1742	431	430	0.491	12	1	Collector / Local Road	1300	40
1743	433	431	0.105	12	1	Principal Arterial	1600	45
1744	432	434	0.441	12	1	Principal Arterial	1600	45
1745	434	432	0.441	12	1	Principal Arterial	1600	45
1746	434	435	0.123	12	1	Principal Arterial	1600	45
1747	435	434	0.123	12	1	Principal Arterial	1600	45
1748	435	436	0.266	12	1	Principal Arterial	1600	45
1749	436	438	0.15	12	1	Principal Arterial	1600	45
1750	438	437	0.281	12	1	Principal Arterial	1600	45
1751	429	455	0.33	12	1	Major Arterial	1300	45
1752	455	429	0.33	12	1	Major Arterial	1300	45
1753	425	442	0.776	12	2	Principal Arterial	3200	45
1754	442	425	0.776	12	2	Principal Arterial	3200	45
1755	431	443	0.226	12	1	Principal Arterial	1600	45
1756	445	433	0.198	12	1	Collector / Local Road	1300	45
1757	448	436	0.198	12	1	Principal Arterial	1600	45
1758	438	449	0.198	12	1	Principal Arterial	1600	45
1759	434	450	0.3	12	1	Principal Arterial	1600	45
1760	450	434	0.3	12	1	Principal Arterial	1600	45
1761	346	423	1.085	12	2	Principal Arterial	3200	45
1762	423	346	1.085	12	2	Principal Arterial	3200	45
1763	448	444	0.23	12	1	Principal Arterial	1600	45
1764	449	448	0.149	12	1	Principal Arterial	1600	45
1765	445	449	0.371	12	1	Principal Arterial	1600	45
1766	432	451	0.258	12	1	Collector / Local Road	1300	40
1767	451	432	0.258	12	1	Collector / Local Road	1300	40
1768	425	463	0.458	12	1	Major Arterial	1300	45
1769	463	425	0.458	12	1	Major Arterial	1300	45
1770	451	454	0.522	12	1	Collector / Local Road	1300	40
1771	454	451	0.522	12	1	Collector / Local Road	1300	40
1772	430	461	0.318	12	1	Collector / Local Road	1300	40
1773	461	430	0.318	12	1	Collector / Local Road	1300	40
1774	443	461	0.513	12	1	Major Arterial	1300	50
1775	461	443	0.513	12	1	Major Arterial	1300	50
1776	447	463	0.871	12	1	Minor Arterial	1300	40
1777	463	447	0.871	12	1	Minor Arterial	1300	40
1778	443	465	0.222	12	1	Major Arterial	1300	50
1779	346	462	1.191	12	1	Principal Arterial	1600	45
1780	462	346	1.191	12	1	Principal Arterial	1600	45
1781	460	466	0.578	12	2	Principal Arterial	3200	45
1782	473	457	0.25	12	1	Principal Arterial	1600	45
1783	467	445	0.283	12	1	Collector / Local Road	1300	45
1784	459	596	0.257	12	1	Principal Arterial	1600	45
1785	474	470	0.358	12	2	Principal Arterial	3200	45
1786	471	474	0.35	12	2	Principal Arterial	3200	45
1787	456	475	0.509	12	1	Collector / Local Road	1300	40
1788	475	456	0.509	12	1	Collector / Local Road	1300	40
1789	467	476	0.294	12	1	Major Arterial	1300	50
1790	476	467	0.294	12	1	Major Arterial	1300	50
1791	454	477	0.494	12	1	Minor Arterial	1300	40

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
1792	477	454	0.494	12	1	Minor Arterial	1300	40
1793	480	473	0.258	12	1	Principal Arterial	1600	45
1794	475	477	0.627	12	1	Collector / Local Road	1300	40
1795	477	475	0.627	12	1	Collector / Local Road	1300	40
1796	477	480	0.365	12	1	Minor Arterial	1300	40
1797	480	477	0.365	12	1	Minor Arterial	1300	40
1798	354	355	1.445	12	2	Minor Arterial	2600	40
1799	355	354	1.445	12	2	Minor Arterial	2600	40
1800	427	486	0.97	12	1	Major Arterial	1300	45
1801	486	427	0.97	12	1	Major Arterial	1300	45
1802	481	484	0.506	12	1	Major Arterial	1300	45
1803	484	481	0.506	12	1	Major Arterial	1300	45
1804	464	485	0.923	12	1	Major Arterial	1300	45
1805	485	464	0.923	12	1	Major Arterial	1300	45
1806	460	513	0.839	12	1	Major Arterial	1300	45
1807	513	460	0.839	12	1	Major Arterial	1300	45
1808	481	490	0.185	12	1	Principal Arterial	1600	45
1809	482	488	0.648	12	1	Principal Arterial	1600	45
1810	488	482	0.648	12	1	Principal Arterial	1600	45
1811	424	488	1.062	12	1	Minor Arterial	1300	40
1812	488	424	1.062	12	1	Minor Arterial	1300	40
1813	488	502	0.32	12	1	Principal Arterial	1600	45
1814	502	488	0.32	12	1	Principal Arterial	1600	45
1815	319	495	2.283	12	2	Freeway	4100	65
1816	488	504	0.129	12	1	Collector / Local Road	1300	40
1817	504	488	0.129	12	1	Collector / Local Road	1300	40
1818	501	502	0.335	12	1	Principal Arterial	1600	45
1819	502	501	0.335	12	1	Principal Arterial	1600	45
1820	502	503	0.262	12	1	Collector / Local Road	1300	40
1821	503	502	0.262	12	1	Collector / Local Road	1300	40
1822	513	518	0.989	12	1	Collector / Local Road	1300	40
1823	518	513	0.989	12	1	Collector / Local Road	1300	40
1824	416	519	1.553	12	1	Major Arterial	1300	45
1825	519	416	1.553	12	1	Major Arterial	1300	45
1826	518	523	0.989	12	1	Collector / Local Road	1300	40
1827	523	518	0.989	12	1	Collector / Local Road	1300	40
1828	523	531	0.996	12	1	Collector / Local Road	1300	40
1829	531	523	0.996	12	1	Collector / Local Road	1300	40
1830	846	532	0.105	12	2	Principal Arterial	3200	45
1831	528	538	0.157	12	2	Principal Arterial	3200	45
1832	534	694	0.795	12	1	Ramp	1500	35
1833	535	539	0.167	12	2	Principal Arterial	3200	45
1834	539	535	0.167	12	2	Principal Arterial	3200	45
1835	331	537	0.46	12	1	Minor Arterial	1300	40
1836	537	331	0.46	12	1	Minor Arterial	1300	40
1837	537	539	0.899	12	1	Minor Arterial	1300	40
1838	539	537	0.899	12	1	Minor Arterial	1300	40
1839	355	1315	1.737	12	2	Principal Arterial	3200	45
1840	1315	355	1.737	12	2	Principal Arterial	3200	45
1841	537	544	0.347	12	1	Collector / Local Road	1300	40
1842	544	537	0.347	12	1	Collector / Local Road	1300	40
1843	544	653	0.948	12	2	Principal Arterial	3200	45
1844	653	544	0.948	12	2	Principal Arterial	3200	45
1845	281	546	0.513	12	1	Minor Arterial	1300	40
1846	546	281	0.513	12	1	Minor Arterial	1300	40
1847	540	547	0.283	12	1	Principal Arterial	1600	35

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
1848	547	540	0.283	12	1	Principal Arterial	1600	35
1849	543	545	0.977	12	1	Major Arterial	1300	45
1850	545	543	0.977	12	1	Major Arterial	1300	45
1851	283	545	0.993	12	1	Major Arterial	1300	45
1852	545	283	0.993	12	1	Major Arterial	1300	45
1853	546	547	0.203	12	1	Major Arterial	1300	45
1854	547	546	0.203	12	1	Major Arterial	1300	45
1855	547	548	0.238	12	1	Principal Arterial	1600	35
1856	548	547	0.238	12	1	Principal Arterial	1600	35
1857	548	651	0.28	12	1	Principal Arterial	1600	35
1858	651	548	0.28	12	1	Principal Arterial	1600	35
1859	550	553	0.536	12	2	Principal Arterial	3200	45
1860	553	550	0.536	12	2	Principal Arterial	3200	45
1861	286	556	0.264	12	2	Principal Arterial	3200	45
1862	268	558	0.592	12	1	Collector / Local Road	1300	45
1863	558	268	0.592	12	1	Collector / Local Road	1300	45
1864	560	561	0.218	12	2	Collector / Local Road	2600	40
1865	561	560	0.218	12	2	Collector / Local Road	2600	40
1866	559	562	0.742	12	2	Principal Arterial	3200	45
1867	562	559	0.742	12	2	Principal Arterial	3200	45
1868	561	564	0.304	12	2	Collector / Local Road	2600	40
1869	564	561	0.304	12	2	Collector / Local Road	2600	40
1870	562	563	0.186	12	1	Principal Arterial	1600	45
1871	563	562	0.186	12	1	Principal Arterial	1600	45
1872	374	563	1.075	12	1	Collector / Local Road	1300	40
1873	563	374	1.075	12	1	Collector / Local Road	1300	40
1874	564	565	0.466	12	1	Collector / Local Road	1300	40
1875	565	564	0.466	12	1	Collector / Local Road	1300	40
1876	565	566	0.396	12	1	Minor Arterial	1300	40
1877	566	565	0.396	12	1	Minor Arterial	1300	40
1878	566	567	0.125	12	1	Minor Arterial	1300	40
1879	567	566	0.125	12	1	Minor Arterial	1300	40
1880	269	567	0.158	12	1	Major Arterial	1300	45
1881	567	269	0.158	12	1	Major Arterial	1300	45
1882	341	563	1.008	12	1	Collector / Local Road	1300	40
1883	563	341	1.008	12	1	Collector / Local Road	1300	40
1884	343	563	1.139	12	1	Principal Arterial	1600	45
1885	563	343	1.139	12	1	Principal Arterial	1600	45
1886	284	568	0.857	12	2	Minor Arterial	2600	40
1887	568	284	0.857	12	2	Minor Arterial	2600	40
1888	341	569	0.827	12	1	Collector / Local Road	1300	40
1889	569	341	0.827	12	1	Collector / Local Road	1300	40
1890	284	341	1	12	1	Collector / Local Road	1300	40
1891	341	284	1	12	1	Collector / Local Road	1300	40
1892	341	570	0.274	12	1	Collector / Local Road	1300	40
1893	570	341	0.274	12	1	Collector / Local Road	1300	40
1894	345	566	3.627	12	1	Minor Arterial	1300	40
1895	566	345	3.627	12	1	Minor Arterial	1300	40
1896	572	1310	1.194	12	1	Collector / Local Road	1300	40
1897	1310	572	1.194	12	1	Collector / Local Road	1300	40
1898	284	574	1.558	12	2	Minor Arterial	2600	40
1899	574	284	1.558	12	2	Minor Arterial	2600	40
1900	569	571	1.247	12	2	Principal Arterial	3200	45
1901	571	569	1.247	12	2	Principal Arterial	3200	45
1902	571	572	1.36	12	2	Major Arterial	2700	45
1903	572	571	1.36	12	2	Major Arterial	2700	45

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
1904	572	573	0.637	12	2	Major Arterial	2700	45
1905	573	572	0.637	12	2	Major Arterial	2700	45
1906	573	574	0.442	12	2	Major Arterial	2700	45
1907	574	573	0.442	12	2	Major Arterial	2700	45
1908	575	576	0.614	12	2	Major Arterial	2700	45
1909	576	575	0.614	12	2	Major Arterial	2700	45
1910	423	571	0.93	12	2	Principal Arterial	3200	45
1911	571	423	0.93	12	2	Principal Arterial	3200	45
1912	574	580	1.533	12	2	Minor Arterial	2600	40
1913	580	574	1.533	12	2	Minor Arterial	2600	40
1914	346	579	1.145	12	1	Principal Arterial	1600	45
1915	579	346	1.145	12	1	Principal Arterial	1600	45
1916	579	580	1.267	12	2	Principal Arterial	3200	45
1917	580	579	1.267	12	2	Principal Arterial	3200	45
1918	580	581	1.097	12	2	Principal Arterial	3200	45
1919	581	580	1.097	12	2	Principal Arterial	3200	45
1920	581	582	1.647	12	2	Principal Arterial	3200	45
1921	582	581	1.647	12	2	Principal Arterial	3200	45
1922	344	584	0.219	12	2	Principal Arterial	3200	45
1923	584	344	0.219	12	2	Principal Arterial	3200	45
1924	578	584	0.164	12	2	Principal Arterial	3200	45
1925	584	578	0.164	12	2	Principal Arterial	3200	45
1926	578	585	0.14	12	2	Principal Arterial	3200	45
1927	585	578	0.14	12	2	Principal Arterial	3200	45
1928	585	586	0.266	12	1	Principal Arterial	1600	45
1929	586	585	0.266	12	1	Principal Arterial	1600	45
1930	586	587	0.306	12	2	Principal Arterial	3200	45
1931	587	586	0.306	12	2	Principal Arterial	3200	45
1932	577	290	0.459	12	2	Freeway	4100	65
1933	352	356	1.188	12	1	Major Arterial	1300	45
1934	356	352	1.188	12	1	Major Arterial	1300	45
1935	347	348	0.473	12	1	Principal Arterial	1600	45
1936	348	347	0.473	12	1	Principal Arterial	1600	45
1937	590	854	0.756	12	1	Major Arterial	1300	45
1938	854	590	0.756	12	1	Major Arterial	1300	45
1939	591	349	0.324	12	2	Principal Arterial	3200	45
1940	297	536	2.212	12	2	Freeway	4100	65
1941	414	421	0.312	12	1	Principal Arterial	1600	45
1942	421	414	0.312	12	1	Principal Arterial	1600	45
1943	419	412	0.384	12	1	Principal Arterial	1600	45
1944	355	519	2.058	12	2	Principal Arterial	3200	45
1945	519	355	2.058	12	2	Principal Arterial	3200	45
1946	601	603	0.55	12	1	Major Arterial	1300	45
1947	603	601	0.55	12	1	Major Arterial	1300	45
1948	696	705	0.304	12	2	Minor Arterial	2600	40
1949	705	696	0.304	12	2	Minor Arterial	2600	40
1950	605	697	2.59	12	2	Principal Arterial	3200	45
1951	697	605	2.59	12	2	Principal Arterial	3200	45
1952	614	306	2.793	12	2	Freeway	4100	65
1953	605	606	2.391	12	2	Principal Arterial	3200	45
1954	606	605	2.391	12	2	Principal Arterial	3200	45
1955	607	615	1.424	12	2	Principal Arterial	3200	45
1956	615	607	1.424	12	2	Principal Arterial	3200	45
1957	339	597	0.444	12	2	Principal Arterial	3200	45
1958	597	339	0.444	12	2	Principal Arterial	3200	45
1959	624	316	0.898	12	2	Freeway	4100	65

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
1960	340	608	2.964	12	1	Major Arterial	1300	45
1961	608	340	2.964	12	1	Major Arterial	1300	45
1962	598	618	0.195	12	2	Principal Arterial	3200	45
1963	618	598	0.195	12	2	Principal Arterial	3200	45
1964	618	619	0.439	12	2	Principal Arterial	3200	45
1965	619	618	0.439	12	2	Principal Arterial	3200	45
1966	314	609	1.053	12	2	Freeway	4100	65
1967	317	623	0.929	12	2	Freeway	4100	65
1968	619	1280	1.158	12	2	Principal Arterial	3200	45
1969	1280	619	1.158	12	2	Principal Arterial	3200	45
1970	626	631	1.991	12	1	Principal Arterial	1600	55
1971	631	626	1.991	12	1	Principal Arterial	1600	55
1972	658	639	6.777	12	2	Principal Arterial	3650	55
1973	644	652	1.657	12	1	Major Arterial	1300	45
1974	652	644	1.657	12	1	Major Arterial	1300	45
1975	644	645	0.657	12	1	Principal Arterial	1600	50
1976	645	644	0.657	12	1	Principal Arterial	1600	50
1977	645	646	0.632	12	1	Principal Arterial	1600	55
1978	646	645	0.632	12	1	Principal Arterial	1600	55
1979	513	1250	1.342	12	1	Major Arterial	1300	45
1980	1250	513	1.342	12	1	Major Arterial	1300	45
1981	641	649	1	12	1	Major Arterial	1300	45
1982	649	641	1	12	1	Major Arterial	1300	45
1983	640	650	1.11	12	1	Major Arterial	1300	45
1984	650	640	1.11	12	1	Major Arterial	1300	45
1985	544	650	1.563	12	1	Collector / Local Road	1300	40
1986	650	544	1.563	12	1	Collector / Local Road	1300	40
1987	648	652	1.1	12	1	Collector / Local Road	1300	40
1988	652	648	1.1	12	1	Collector / Local Road	1300	40
1989	643	541	1.71	12	2	Principal Arterial	3200	45
1990	648	651	0.284	12	1	Principal Arterial	1600	35
1991	651	648	0.284	12	1	Principal Arterial	1600	35
1992	628	639	0.173	12	1	Collector / Local Road	1300	40
1993	639	628	0.173	12	1	Collector / Local Road	1300	40
1994	629	635	0.193	12	1	Collector / Local Road	1300	40
1995	635	629	0.193	12	1	Collector / Local Road	1300	40
1996	643	652	0.988	12	1	Major Arterial	1300	45
1997	652	643	0.988	12	1	Major Arterial	1300	45
1998	613	627	3.942	12	1	Major Arterial	1300	45
1999	627	613	3.942	12	1	Major Arterial	1300	45
2000	644	657	3.424	12	1	Principal Arterial	1600	55
2001	657	644	3.424	12	1	Principal Arterial	1600	55
2002	636	632	0.466	12	2	Principal Arterial	3650	55
2003	639	635	0.449	12	2	Principal Arterial	3650	55
2004	632	658	2.054	12	2	Principal Arterial	3650	55
2005	627	656	0.711	12	1	Major Arterial	1300	45
2006	656	627	0.711	12	1	Major Arterial	1300	45
2007	641	662	0.994	12	1	Major Arterial	1300	45
2008	662	641	0.994	12	1	Major Arterial	1300	45
2009	664	690	4.28	12	1	Principal Arterial	1600	55
2010	690	664	4.28	12	1	Principal Arterial	1600	55
2011	664	665	6.445	12	1	Principal Arterial	1600	55
2012	665	664	6.445	12	1	Principal Arterial	1600	55
2013	665	671	2.066	12	1	Major Arterial	1300	45
2014	671	665	2.066	12	1	Major Arterial	1300	45
2015	666	667	0.508	11	1	Major Arterial	1300	30

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
2016	667	666	0.508	11	1	Major Arterial	1300	30
2017	666	668	0.371	12	1	Principal Arterial	1600	30
2018	668	666	0.371	12	1	Principal Arterial	1600	30
2019	670	680	0.627	12	1	Principal Arterial	1600	35
2020	680	670	0.627	12	1	Principal Arterial	1600	35
2021	626	670	0.454	12	1	Principal Arterial	1600	35
2022	670	626	0.454	12	1	Principal Arterial	1600	35
2023	672	677	1.445	12	1	Principal Arterial	1600	50
2024	677	672	1.445	12	1	Principal Arterial	1600	50
2025	132	673	0.911	12	1	Principal Arterial	1600	50
2026	673	132	0.911	12	1	Principal Arterial	1600	50
2027	670	1306	0.12	12	1	Principal Arterial	1600	35
2028	1306	670	0.12	12	1	Principal Arterial	1600	35
2029	674	677	0.161	12	1	Principal Arterial	1600	45
2030	677	674	0.161	12	1	Principal Arterial	1600	45
2031	659	688	0.735	12	1	Major Arterial	1300	45
2032	688	659	0.735	12	1	Major Arterial	1300	45
2033	663	679	3.017	12	1	Principal Arterial	1600	50
2034	679	663	3.017	12	1	Principal Arterial	1600	50
2035	687	688	1.302	12	1	Major Arterial	1300	45
2036	688	687	1.302	12	1	Major Arterial	1300	45
2037	688	1251	0.594	12	1	Principal Arterial	1600	50
2038	1251	688	0.594	12	1	Principal Arterial	1600	50
2039	681	692	1.32	12	1	Principal Arterial	1600	55
2040	692	681	1.32	12	1	Principal Arterial	1600	55
2041	683	684	0.028	12	1	Minor Arterial	1300	40
2042	684	683	0.028	12	1	Minor Arterial	1300	40
2043	683	685	0.066	12	1	Major Arterial	1300	45
2044	685	683	0.066	12	1	Major Arterial	1300	45
2045	361	687	3.005	12	1	Major Arterial	1300	45
2046	687	361	3.005	12	1	Major Arterial	1300	45
2047	685	687	0.949	12	1	Major Arterial	1300	45
2048	687	685	0.949	12	1	Major Arterial	1300	45
2049	660	661	1.991	12	1	Major Arterial	1300	45
2050	661	660	1.991	12	1	Major Arterial	1300	45
2051	661	665	4.012	12	1	Major Arterial	1300	45
2052	665	661	4.012	12	1	Major Arterial	1300	45
2053	463	518	0.829	12	1	Major Arterial	1300	45
2054	518	463	0.829	12	1	Major Arterial	1300	45
2055	287	557	4.145	12	2	Freeway	4100	65
2056	702	577	4.153	12	2	Freeway	4100	65
2057	291	348	0.757	12	1	Ramp	1500	35
2058	504	513	1.978	12	1	Collector / Local Road	1300	40
2059	513	504	1.978	12	1	Collector / Local Road	1300	40
2060	302	703	3.896	12	2	Freeway	4100	65
2061	596	481	0.275	12	1	Principal Arterial	1600	45
2062	542	642	1.712	12	2	Principal Arterial	3200	45
2063	597	599	1.029	12	2	Principal Arterial	3200	45
2064	599	597	1.029	12	2	Principal Arterial	3200	45
2065	539	699	0.649	12	2	Principal Arterial	3200	45
2066	699	539	0.649	12	2	Principal Arterial	3200	45
2067	887	288	0.642	12	2	Freeway	4100	65
2068	370	701	1.011	12	2	Principal Arterial	3200	45
2069	593	1270	0.21	12	2	Freeway	4100	65
2070	703	297	1.638	12	2	Freeway	4100	65
2071	272	710	2.911	12	2	Freeway	4100	65

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
2072	710	712	0.278	12	1	Ramp	1500	35
2073	738	714	0.278	12	1	Ramp	1500	35
2074	825	802	0.425	12	1	Ramp	1500	35
2075	803	809	0.393	12	1	Ramp	1500	35
2076	817	818	0.116	12	2	Principal Arterial	3200	40
2077	818	817	0.116	12	2	Principal Arterial	3200	40
2078	827	797	0.121	12	1	Major Arterial	1300	45
2079	828	827	0.122	12	1	Major Arterial	1300	45
2080	496	845	0.34	12	2	Freeway	4100	65
2081	416	417	0.682	12	1	Major Arterial	1300	45
2082	417	416	0.682	12	1	Major Arterial	1300	45
2083	362	681	2.984	12	1	Collector / Local Road	1300	40
2084	681	362	2.984	12	1	Collector / Local Road	1300	40
2085	399	453	1.771	12	2	Principal Arterial	3200	45
2086	453	399	1.771	12	2	Principal Arterial	3200	45
2087	440	453	2.425	12	1	Minor Arterial	1300	40
2088	453	440	2.425	12	1	Minor Arterial	1300	40
2089	637	849	1.97	12	2	Principal Arterial	3650	55
2090	850	638	1.969	12	2	Principal Arterial	3650	55
2091	334	1278	1.818	12	1	Minor Arterial	1300	40
2092	1278	334	1.818	12	1	Minor Arterial	1300	40
2093	210	245	0.399	12	1	Principal Arterial	1600	35
2094	245	210	0.399	12	1	Principal Arterial	1600	35
2095	236	247	3.018	12	1	Major Arterial	1300	55
2096	247	236	3.018	12	1	Major Arterial	1300	55
2097	212	986	0.532	12	2	Freeway	4100	65
2098	853	897	0.389	12	1	Major Arterial	1300	45
2099	897	853	0.389	12	1	Major Arterial	1300	45
2100	558	559	0.498	12	2	Principal Arterial	3200	45
2101	559	558	0.498	12	2	Principal Arterial	3200	45
2102	863	870	0.272	12	2	Principal Arterial	3200	45
2103	867	865	0.159	12	2	Principal Arterial	3200	45
2104	870	871	1.15	12	1	Ramp	1500	55
2105	872	867	0.198	12	1	Ramp	1500	55
2106	868	871	0.678	12	2	Freeway	4100	65
2107	875	931	0.163	11	1	Collector / Local Road	1300	25
2108	931	875	0.163	11	1	Collector / Local Road	1300	25
2109	266	268	0.434	12	1	Collector / Local Road	1300	45
2110	268	266	0.434	12	1	Collector / Local Road	1300	45
2111	266	563	1.004	12	1	Collector / Local Road	1300	40
2112	563	266	1.004	12	1	Collector / Local Road	1300	40
2113	379	397	0.516	12	1	Principal Arterial	1600	45
2114	397	379	0.516	12	1	Principal Arterial	1600	45
2115	396	397	0.847	12	1	Collector / Local Road	1300	40
2116	397	396	0.847	12	1	Collector / Local Road	1300	40
2117	410	418	1.136	12	1	Major Arterial	1300	45
2118	418	410	1.136	12	1	Major Arterial	1300	45
2119	428	432	0.584	12	1	Principal Arterial	1600	45
2120	432	428	0.584	12	1	Principal Arterial	1600	45
2121	456	463	2.049	12	1	Collector / Local Road	1300	40
2122	463	456	2.049	12	1	Collector / Local Road	1300	40
2123	357	857	1.985	12	2	Principal Arterial	3200	45
2124	857	357	1.985	12	2	Principal Arterial	3200	45
2125	224	227	0.609	12	1	Major Arterial	1300	45
2126	227	224	0.609	12	1	Major Arterial	1300	45
2127	883	884	0.558	12	2	Freeway	4100	65

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
2128	885	882	0.854	12	2	Freeway	4100	65
2129	360	358	0.837	12	2	Principal Arterial	3200	45
2130	363	847	0.508	12	1	Minor Arterial	1300	40
2131	847	363	0.508	12	1	Minor Arterial	1300	40
2132	357	364	1.995	12	1	Minor Arterial	1300	40
2133	364	357	1.995	12	1	Minor Arterial	1300	40
2134	358	367	0.269	12	2	Principal Arterial	3200	45
2135	549	1251	0.725	12	1	Principal Arterial	1600	45
2136	1251	549	0.725	12	1	Principal Arterial	1600	45
2137	590	594	1.092	12	2	Minor Arterial	2600	40
2138	594	590	1.092	12	2	Minor Arterial	2600	40
2139	397	418	0.962	12	1	Principal Arterial	1600	45
2140	418	397	0.962	12	1	Principal Arterial	1600	45
2141	640	642	0.994	12	1	Major Arterial	1300	45
2142	642	640	0.994	12	1	Major Arterial	1300	45
2143	853	896	0.116	12	2	Major Arterial	2700	45
2144	896	853	0.116	12	2	Major Arterial	2700	45
2145	901	905	3.514	12	1	Minor Arterial	1300	55
2146	905	901	3.514	12	1	Minor Arterial	1300	55
2147	903	911	1.892	12	1	Principal Arterial	1600	55
2148	911	903	1.892	12	1	Principal Arterial	1600	55
2149	909	912	1	12	1	Major Arterial	1300	55
2150	912	909	1	12	1	Major Arterial	1300	55
2151	908	915	2.269	12	1	Major Arterial	1300	45
2152	915	908	2.269	12	1	Major Arterial	1300	45
2153	865	914	0.177	12	2	Major Arterial	2700	45
2154	914	865	0.177	12	2	Major Arterial	2700	45
2155	863	1046	0.721	12	1	Major Arterial	1300	55
2156	1046	863	0.721	12	1	Major Arterial	1300	55
2157	915	917	0.494	11	1	Major Arterial	1300	25
2158	917	915	0.494	11	1	Major Arterial	1300	25
2159	916	1044	0.657	12	1	Collector / Local Road	800	45
2160	1044	916	0.657	12	1	Collector / Local Road	800	45
2161	917	926	0.745	11	1	Major Arterial	1300	25
2162	926	917	0.745	11	1	Major Arterial	1300	25
2163	927	1033	0.852	12	1	Major Arterial	1300	40
2164	1033	927	0.852	12	1	Major Arterial	1300	40
2165	925	930	0.506	10	1	Collector / Local Road	800	25
2166	930	925	0.506	10	1	Collector / Local Road	800	25
2167	858	929	4.012	12	1	Major Arterial	1300	55
2168	929	858	4.012	12	1	Major Arterial	1300	55
2169	740	929	1.905	12	1	Minor Arterial	1300	40
2170	929	740	1.905	12	1	Minor Arterial	1300	40
2171	928	931	0.874	11	1	Collector / Local Road	1300	30
2172	931	928	0.874	11	1	Collector / Local Road	1300	30
2173	875	933	0.64	10	1	Collector / Local Road	800	25
2174	933	875	0.64	10	1	Collector / Local Road	800	25
2175	935	939	0.41	12	1	Major Arterial	1300	45
2176	939	935	0.41	12	1	Major Arterial	1300	45
2177	875	936	0.488	12	1	Collector / Local Road	1300	40
2178	936	875	0.488	12	1	Collector / Local Road	1300	40
2179	938	936	0.348	12	1	Collector / Local Road	1300	40
2180	937	941	0.348	11	1	Major Arterial	1300	25
2181	941	937	0.348	11	1	Major Arterial	1300	25
2182	939	938	0.4	12	1	Collector / Local Road	1300	40
2183	939	940	0.362	11	1	Major Arterial	1300	25

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
2184	940	939	0.362	11	1	Major Arterial	1300	25
2185	940	1034	0.179	11	1	Major Arterial	1300	25
2186	1034	940	0.179	11	1	Major Arterial	1300	25
2187	941	1034	0.128	11	1	Major Arterial	1300	25
2188	1034	941	0.128	11	1	Major Arterial	1300	25
2189	944	1035	0.942	12	1	Collector / Local Road	1300	55
2190	1035	944	0.942	12	1	Collector / Local Road	1300	55
2191	945	1035	1.153	12	1	Collector / Local Road	1300	55
2192	1035	945	1.153	12	1	Collector / Local Road	1300	55
2193	944	1036	0.638	12	1	Major Arterial	1300	45
2194	1036	944	0.638	12	1	Major Arterial	1300	45
2195	929	955	1.943	12	1	Major Arterial	1300	55
2196	955	929	1.943	12	1	Major Arterial	1300	55
2197	947	951	0.722	12	1	Major Arterial	1300	50
2198	951	947	0.722	12	1	Major Arterial	1300	50
2199	951	952	0.286	12	1	Major Arterial	1300	45
2200	952	951	0.286	12	1	Major Arterial	1300	45
2201	952	953	1.008	12	1	Major Arterial	1300	45
2202	953	952	1.008	12	1	Major Arterial	1300	45
2203	959	961	1.498	12	1	Major Arterial	1300	55
2204	961	959	1.498	12	1	Major Arterial	1300	55
2205	877	1039	3.01	12	1	Major Arterial	1300	55
2206	1039	877	3.01	12	1	Major Arterial	1300	55
2207	963	1039	0.796	12	1	Major Arterial	1300	40
2208	1039	963	0.796	12	1	Major Arterial	1300	40
2209	968	969	0.378	12	1	Principal Arterial	1600	35
2210	969	968	0.378	12	1	Principal Arterial	1600	35
2211	969	970	1.26	12	1	Principal Arterial	1600	35
2212	970	969	1.26	12	1	Principal Arterial	1600	35
2213	970	971	0.074	12	1	Principal Arterial	1600	35
2214	971	970	0.074	12	1	Principal Arterial	1600	35
2215	971	972	0.209	12	1	Principal Arterial	1600	35
2216	972	971	0.209	12	1	Principal Arterial	1600	35
2217	975	976	1.855	12	1	Principal Arterial	1600	45
2218	976	975	1.855	12	1	Principal Arterial	1600	45
2219	985	217	1.112	12	2	Freeway	4100	65
2220	982	983	1.899	12	1	Major Arterial	1300	45
2221	983	982	1.899	12	1	Major Arterial	1300	45
2222	984	987	1.993	12	1	Collector / Local Road	800	45
2223	987	984	1.993	12	1	Collector / Local Road	800	45
2224	891	990	2	12	1	Collector / Local Road	800	45
2225	990	891	2	12	1	Collector / Local Road	800	45
2226	991	992	0.479	11	1	Major Arterial	1300	30
2227	992	991	0.479	11	1	Major Arterial	1300	30
2228	992	993	0.274	11	1	Major Arterial	1300	30
2229	993	992	0.274	11	1	Major Arterial	1300	30
2230	993	995	4.095	12	1	Major Arterial	1300	55
2231	995	993	4.095	12	1	Major Arterial	1300	55
2232	994	1002	1.186	12	1	Principal Arterial	1600	40
2233	1002	994	1.186	12	1	Principal Arterial	1600	40
2234	995	1221	4.921	12	1	Major Arterial	1300	55
2235	1221	995	4.921	12	1	Major Arterial	1300	55
2236	228	999	2.653	12	1	Major Arterial	1300	55
2237	999	228	2.653	12	1	Major Arterial	1300	55
2238	998	999	0.037	12	1	Collector / Local Road	1300	40
2239	999	998	0.037	12	1	Collector / Local Road	1300	40

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
2240	996	1003	1.506	12	1	Major Arterial	1300	45
2241	1003	996	1.506	12	1	Major Arterial	1300	45
2242	1002	1021	2.772	12	1	Principal Arterial	1600	55
2243	1021	1002	2.772	12	1	Principal Arterial	1600	55
2244	1005	1008	0.333	11	1	Minor Arterial	1300	30
2245	1008	1005	0.333	11	1	Minor Arterial	1300	30
2246	1008	1010	1.508	12	1	Major Arterial	1300	45
2247	1010	1008	1.508	12	1	Major Arterial	1300	45
2248	1021	1024	1.992	12	1	Major Arterial	1300	45
2249	1024	1021	1.992	12	1	Major Arterial	1300	45
2250	1005	1012	1.181	12	1	Major Arterial	1300	45
2251	1012	1005	1.181	12	1	Major Arterial	1300	45
2252	1010	1011	0.491	12	1	Major Arterial	1300	45
2253	1011	1010	0.491	12	1	Major Arterial	1300	45
2254	1011	1012	0.476	12	1	Major Arterial	1300	45
2255	1012	1011	0.476	12	1	Major Arterial	1300	45
2256	855	1015	0.852	12	1	Major Arterial	1300	45
2257	1015	855	0.852	12	1	Major Arterial	1300	45
2258	1010	1017	0.788	12	1	Major Arterial	1300	45
2259	1017	1010	0.788	12	1	Major Arterial	1300	45
2260	1015	1024	2.012	12	1	Major Arterial	1300	45
2261	1024	1015	2.012	12	1	Major Arterial	1300	45
2262	1022	1048	1.743	12	1	Major Arterial	1300	45
2263	1048	1022	1.743	12	1	Major Arterial	1300	45
2264	1022	1023	0.239	12	1	Major Arterial	1300	45
2265	1023	1022	0.239	12	1	Major Arterial	1300	45
2266	1017	1023	3.529	12	1	Major Arterial	1300	45
2267	1023	1017	3.529	12	1	Major Arterial	1300	45
2268	1021	1025	4.014	12	1	Principal Arterial	1600	55
2269	1025	1021	4.014	12	1	Principal Arterial	1600	55
2270	1041	1042	4.436	12	1	Minor Arterial	1300	40
2271	1042	1041	4.436	12	1	Minor Arterial	1300	40
2272	1020	1026	7.682	12	1	Major Arterial	1300	45
2273	1026	1020	7.682	12	1	Major Arterial	1300	45
2274	895	896	0.276	12	2	Minor Arterial	2600	40
2275	896	895	0.276	12	2	Minor Arterial	2600	40
2276	876	1028	3.248	12	1	Collector / Local Road	1300	40
2277	1028	876	3.248	12	1	Collector / Local Road	1300	40
2278	950	1029	1.741	12	1	Major Arterial	1300	45
2279	1029	950	1.741	12	1	Major Arterial	1300	45
2280	946	1029	1.255	12	1	Major Arterial	1300	45
2281	1029	946	1.255	12	1	Major Arterial	1300	45
2282	946	1043	1.23	12	1	Minor Arterial	1300	40
2283	1043	946	1.23	12	1	Minor Arterial	1300	40
2284	948	954	1.891	12	1	Major Arterial	1300	50
2285	954	948	1.891	12	1	Major Arterial	1300	50
2286	958	1043	1.353	12	1	Collector / Local Road	1300	40
2287	1043	958	1.353	12	1	Collector / Local Road	1300	40
2288	965	1030	2.419	12	1	Major Arterial	1300	45
2289	1030	965	2.419	12	1	Major Arterial	1300	45
2290	965	966	1.838	11	1	Minor Arterial	1300	35
2291	966	965	1.838	11	1	Minor Arterial	1300	35
2292	972	973	0.445	12	1	Principal Arterial	1600	35
2293	973	972	0.445	12	1	Principal Arterial	1600	35
2294	974	984	1.989	12	1	Major Arterial	1300	45
2295	984	974	1.989	12	1	Major Arterial	1300	45

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
2296	937	942	0.251	11	1	Major Arterial	1300	25
2297	942	937	0.251	11	1	Major Arterial	1300	25
2298	932	940	0.434	10	1	Collector / Local Road	800	25
2299	940	932	0.434	10	1	Collector / Local Road	800	25
2300	933	934	0.263	10	1	Collector / Local Road	800	25
2301	934	933	0.263	10	1	Collector / Local Road	800	25
2302	924	934	0.64	11	2	Major Arterial	2700	35
2303	934	924	0.64	11	2	Major Arterial	2700	35
2304	924	925	0.458	11	1	Major Arterial	1300	30
2305	925	924	0.458	11	1	Major Arterial	1300	30
2306	858	944	1.002	12	1	Major Arterial	1300	55
2307	944	858	1.002	12	1	Major Arterial	1300	55
2308	943	1036	2.043	11	1	Major Arterial	1300	35
2309	1036	943	2.043	11	1	Major Arterial	1300	35
2310	859	1032	1.085	12	1	Major Arterial	1300	50
2311	1032	859	1.085	12	1	Major Arterial	1300	50
2312	901	1038	5.022	12	1	Minor Arterial	1300	55
2313	1038	901	5.022	12	1	Minor Arterial	1300	55
2314	955	1054	2.445	12	1	Major Arterial	1300	55
2315	1054	955	2.445	12	1	Major Arterial	1300	55
2316	991	994	0.068	12	1	Major Arterial	1300	40
2317	994	991	0.068	12	1	Major Arterial	1300	40
2318	892	991	0.259	12	1	Major Arterial	1300	40
2319	991	892	0.259	12	1	Major Arterial	1300	40
2320	227	998	2.682	12	1	Major Arterial	1300	45
2321	998	227	2.682	12	1	Major Arterial	1300	45
2322	1012	1020	0.252	12	1	Major Arterial	1300	45
2323	1020	1012	0.252	12	1	Major Arterial	1300	45
2324	879	897	0.505	12	1	Major Arterial	1300	45
2325	897	879	0.505	12	1	Major Arterial	1300	45
2326	906	1045	5.049	12	1	Major Arterial	1300	55
2327	1045	906	5.049	12	1	Major Arterial	1300	55
2328	1019	1020	0.901	12	1	Major Arterial	1300	45
2329	1020	1019	0.901	12	1	Major Arterial	1300	45
2330	1017	1019	0.913	12	1	Major Arterial	1300	45
2331	1019	1017	0.913	12	1	Major Arterial	1300	45
2332	950	1031	0.612	12	1	Major Arterial	1300	45
2333	1031	950	0.612	12	1	Major Arterial	1300	45
2334	998	1047	1.773	11	1	Minor Arterial	1300	35
2335	1047	998	1.773	11	1	Minor Arterial	1300	35
2336	1049	1050	0.049	11	1	Major Arterial	1300	30
2337	1050	1049	0.049	11	1	Major Arterial	1300	30
2338	1050	1051	0.214	12	1	Major Arterial	1300	40
2339	1051	1050	0.214	12	1	Major Arterial	1300	40
2340	1049	1052	0.187	11	1	Major Arterial	1300	35
2341	1052	1049	0.187	11	1	Major Arterial	1300	35
2342	848	1061	0.116	12	3	Principal Arterial	4200	30
2343	1061	848	0.116	12	3	Principal Arterial	4200	30
2344	1062	1063	0.23	12	2	Principal Arterial	2800	35
2345	1063	1062	0.23	12	2	Principal Arterial	2800	35
2346	755	1066	0.241	12	1	Major Arterial	1300	45
2347	1066	755	0.241	12	1	Major Arterial	1300	45
2348	1068	1069	0.59	12	2	Principal Arterial	3200	45
2349	1069	1068	0.59	12	2	Principal Arterial	3200	45
2350	782	1304	0.255	12	1	Principal Arterial	1600	30
2351	1304	782	0.255	12	1	Principal Arterial	1600	30

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
2352	813	1071	0.496	12	1	Major Arterial	1300	45
2353	1071	813	0.496	12	1	Major Arterial	1300	45
2354	1075	1234	0.212	12	1	Major Arterial	1300	45
2355	1234	1075	0.212	12	1	Major Arterial	1300	45
2356	766	1233	0.111	12	2	Major Arterial	2700	45
2357	1233	766	0.111	12	2	Major Arterial	2700	45
2358	1077	1233	0.693	12	1	Major Arterial	1300	45
2359	1233	1077	0.693	12	1	Major Arterial	1300	45
2360	813	1077	0.678	12	1	Major Arterial	1300	45
2361	1077	813	0.678	12	1	Major Arterial	1300	45
2362	709	1211	0.469	12	1	Major Arterial	1300	55
2363	1211	709	0.469	12	1	Major Arterial	1300	55
2364	1079	1216	1.558	12	1	Principal Arterial	1600	45
2365	1216	1079	1.558	12	1	Principal Arterial	1600	45
2366	1212	1216	3.036	12	1	Major Arterial	1300	55
2367	1216	1212	3.036	12	1	Major Arterial	1300	55
2368	1056	1060	0.704	11	1	Major Arterial	1300	35
2369	1060	1056	0.704	11	1	Major Arterial	1300	35
2370	792	1085	8.38	12	1	Major Arterial	1300	55
2371	1085	792	8.38	12	1	Major Arterial	1300	55
2372	1085	1086	1.208	12	1	Major Arterial	1300	55
2373	1086	1085	1.208	12	1	Major Arterial	1300	55
2374	1090	810	0.582	12	1	Ramp	1500	35
2375	823	1093	0.511	12	2	Principal Arterial	3650	50
2376	1093	823	0.511	12	2	Principal Arterial	3650	50
2377	821	1093	0.396	12	2	Principal Arterial	3650	50
2378	1093	821	0.396	12	2	Principal Arterial	3650	50
2379	1096	815	0.172	12	1	Minor Arterial	1300	40
2380	815	1097	0.181	12	1	Principal Arterial	1600	30
2381	1097	815	0.181	12	1	Principal Arterial	1600	30
2382	788	1099	0.129	12	1	Principal Arterial	1600	30
2383	1099	788	0.129	12	1	Principal Arterial	1600	30
2384	826	1085	5.346	12	1	Major Arterial	1300	45
2385	1085	826	5.346	12	1	Major Arterial	1300	45
2386	157	1256	5.039	12	1	Major Arterial	1300	45
2387	1256	157	5.039	12	1	Major Arterial	1300	45
2388	186	1113	3.088	12	1	Principal Arterial	1600	55
2389	1113	186	3.088	12	1	Principal Arterial	1600	55
2390	1107	1114	0.219	12	1	Ramp	1500	35
2391	1116	1118	0.504	12	1	Major Arterial	1300	40
2392	1118	1116	0.504	12	1	Major Arterial	1300	40
2393	1118	1119	0.203	12	1	Major Arterial	1300	45
2394	1119	1118	0.203	12	1	Major Arterial	1300	45
2395	1134	1128	0.218	12	1	Ramp	1500	35
2396	1132	1196	0.229	12	1	Major Arterial	1300	45
2397	1196	1132	0.229	12	1	Major Arterial	1300	45
2398	1196	1255	0.373	12	1	Major Arterial	1300	40
2399	1255	1196	0.373	12	1	Major Arterial	1300	40
2400	1118	1140	2.109	12	1	Major Arterial	1300	40
2401	1140	1118	2.109	12	1	Major Arterial	1300	40
2402	1259	1284	0.346	12	1	Principal Arterial	1600	45
2403	1284	1259	0.346	12	1	Principal Arterial	1600	45
2404	1140	1169	2.181	12	1	Major Arterial	1300	55
2405	1169	1140	2.181	12	1	Major Arterial	1300	55
2406	1144	1145	0.877	12	2	Principal Arterial	2800	35
2407	1145	1144	0.877	12	2	Principal Arterial	2800	35

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
2408	1145	1146	0.185	12	2	Principal Arterial	2800	35
2409	1146	1145	0.185	12	2	Principal Arterial	2800	35
2410	1146	1149	0.146	12	2	Principal Arterial	2800	25
2411	1149	1146	0.146	12	2	Principal Arterial	2800	25
2412	1150	1152	0.143	12	2	Principal Arterial	2800	25
2413	1152	1150	0.143	12	2	Principal Arterial	2800	25
2414	1143	1157	0.718	12	2	Principal Arterial	2800	35
2415	1157	1143	0.718	12	2	Principal Arterial	2800	35
2416	1155	1156	0.225	12	2	Principal Arterial	2800	30
2417	1156	1155	0.225	12	2	Principal Arterial	2800	30
2418	1152	1156	0.386	12	2	Principal Arterial	2800	30
2419	1156	1152	0.386	12	2	Principal Arterial	2800	30
2420	1149	1164	0.182	12	2	Major Arterial	2700	45
2421	1165	1150	0.184	12	2	Major Arterial	2700	45
2422	1159	1160	0.226	12	2	Principal Arterial	2800	35
2423	1160	1159	0.226	12	2	Principal Arterial	2800	35
2424	1160	1161	0.241	12	2	Principal Arterial	3200	40
2425	1161	1160	0.241	12	2	Principal Arterial	3200	40
2426	1155	1168	0.185	12	2	Minor Arterial	2600	40
2427	1168	1155	0.185	12	2	Minor Arterial	2600	40
2428	1143	1170	0.864	11	1	Collector / Local Road	1300	35
2429	1170	1143	0.864	11	1	Collector / Local Road	1300	35
2430	1164	1171	0.263	12	2	Major Arterial	2700	45
2431	1173	1165	0.261	12	2	Major Arterial	2700	45
2432	1159	1172	0.703	12	1	Collector / Local Road	1300	40
2433	1172	1159	0.703	12	1	Collector / Local Road	1300	40
2434	851	1169	2.996	12	1	Principal Arterial	1600	55
2435	1169	851	2.996	12	1	Principal Arterial	1600	55
2436	1170	1174	0.199	11	1	Collector / Local Road	1300	35
2437	1174	1170	0.199	11	1	Collector / Local Road	1300	35
2438	1174	1176	0.436	12	1	Collector / Local Road	1300	40
2439	1176	1174	0.436	12	1	Collector / Local Road	1300	40
2440	1175	1177	0.436	11	1	Minor Arterial	1300	35
2441	1177	1175	0.436	11	1	Minor Arterial	1300	35
2442	1177	1181	0.691	12	1	Minor Arterial	1300	40
2443	1181	1177	0.691	12	1	Minor Arterial	1300	40
2444	1175	1179	0.822	12	1	Principal Arterial	1600	45
2445	1179	1175	0.822	12	1	Principal Arterial	1600	45
2446	1171	1180	0.756	12	2	Major Arterial	2700	45
2447	1180	1171	0.756	12	2	Major Arterial	2700	45
2448	1179	1181	0.268	12	1	Collector / Local Road	1300	40
2449	1181	1179	0.268	12	1	Collector / Local Road	1300	40
2450	1182	1183	1.961	12	2	Major Arterial	1300	45
2451	1183	1182	1.961	12	1	Major Arterial	1300	45
2452	1182	1184	1.671	12	2	Principal Arterial	3200	45
2453	1184	1182	1.671	12	2	Principal Arterial	3200	45
2454	1137	1139	0.489	12	2	Principal Arterial	2800	30
2455	1139	1137	0.489	12	2	Principal Arterial	2800	30
2456	1145	1175	0.929	12	2	Principal Arterial	3200	45
2457	1175	1145	0.929	12	2	Principal Arterial	3200	45
2458	1143	1144	0.603	12	2	Principal Arterial	2800	35
2459	1144	1143	0.603	12	2	Principal Arterial	2800	35
2460	1263	1134	0.483	12	2	Principal Arterial	3200	45
2461	1135	1122	0.282	12	1	Ramp	1500	35
2462	1192	1288	0.72	12	2	Principal Arterial	3200	45
2463	1288	1192	0.72	12	2	Principal Arterial	3200	45

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
2464	1258	1281	1.207	12	1	Principal Arterial	1600	45
2465	1281	1258	1.207	12	1	Principal Arterial	1600	45
2466	1195	1262	0.142	12	2	Principal Arterial	3200	45
2467	1213	1220	0.723	12	1	Major Arterial	1300	55
2468	1220	1213	0.723	12	1	Major Arterial	1300	55
2469	739	742	4.823	12	1	Major Arterial	1300	45
2470	742	739	4.823	12	1	Major Arterial	1300	45
2471	1202	1203	0.39	12	1	Collector / Local Road	1300	40
2472	1203	1202	0.39	12	1	Collector / Local Road	1300	40
2473	1072	1204	0.494	12	1	Major Arterial	1300	45
2474	1204	1072	0.494	12	1	Major Arterial	1300	45
2475	1068	1202	0.34	12	2	Collector / Local Road	2600	40
2476	1202	1068	0.34	12	2	Collector / Local Road	2600	40
2477	1077	1204	0.631	12	1	Collector / Local Road	1300	40
2478	1204	1077	0.631	12	1	Collector / Local Road	1300	40
2479	1056	1057	0.491	11	1	Major Arterial	1300	35
2480	1057	1056	0.491	11	1	Major Arterial	1300	35
2481	1056	1081	0.242	12	1	Major Arterial	1300	45
2482	1081	1056	0.242	12	1	Major Arterial	1300	45
2483	814	1206	0.259	10	1	Collector / Local Road	800	25
2484	1206	814	0.259	10	1	Collector / Local Road	800	25
2485	1222	1298	0.45	11	1	Major Arterial	1300	35
2486	1298	1222	0.45	11	1	Major Arterial	1300	35
2487	787	1214	5.473	12	1	Principal Arterial	1600	55
2488	1214	787	5.473	12	1	Principal Arterial	1600	55
2489	1094	1215	4.495	12	1	Minor Arterial	1300	40
2490	1215	1094	4.495	12	1	Minor Arterial	1300	40
2491	815	1392	0.776	10	1	Collector / Local Road	800	15
2492	1392	815	0.776	10	1	Collector / Local Road	800	15
2493	1093	1208	0.143	10	1	Collector / Local Road	800	30
2494	1208	1093	0.143	10	1	Collector / Local Road	800	30
2495	1087	1208	0.158	10	1	Collector / Local Road	800	30
2496	1208	1087	0.158	10	1	Collector / Local Road	800	30
2497	1095	1210	0.18	12	1	Collector / Local Road	1300	40
2498	1210	1095	0.18	12	1	Collector / Local Road	1300	40
2499	785	1026	0.12	12	1	Minor Arterial	1300	40
2500	1026	785	0.12	12	1	Minor Arterial	1300	40
2501	744	745	0.311	12	1	Ramp	1500	35
2502	824	1086	4.526	12	1	Major Arterial	1300	45
2503	1086	824	4.526	12	1	Major Arterial	1300	45
2504	792	1300	5.722	12	1	Major Arterial	1300	45
2505	1300	792	5.722	12	1	Major Arterial	1300	45
2506	1084	1269	4.019	11	1	Minor Arterial	1300	35
2507	1269	1084	4.019	11	1	Minor Arterial	1300	35
2508	1221	1269	2.02	12	1	Major Arterial	1300	50
2509	1269	1221	2.02	12	1	Major Arterial	1300	50
2510	1058	1224	0.264	12	2	Major Arterial	2700	30
2511	1224	1058	0.264	12	2	Major Arterial	2700	30
2512	739	1212	5.034	12	1	Major Arterial	1300	55
2513	1212	739	5.034	12	1	Major Arterial	1300	55
2514	851	1048	4.017	12	1	Collector / Local Road	1300	40
2515	1048	851	4.017	12	1	Collector / Local Road	1300	40
2516	821	1087	0.567	12	1	Major Arterial	1300	45
2517	1087	821	0.567	12	1	Major Arterial	1300	45
2518	1100	796	0.386	12	1	Principal Arterial	1600	55
2519	830	1100	0.325	12	1	Principal Arterial	1600	55

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
2520	836	1217	0.729	12	1	Major Arterial	1300	55
2521	1217	836	0.729	12	1	Major Arterial	1300	55
2522	1221	1222	3.548	12	1	Major Arterial	1300	50
2523	1222	1221	3.548	12	1	Major Arterial	1300	50
2524	1055	1298	0.087	11	1	Major Arterial	1300	30
2525	1298	1055	0.087	11	1	Major Arterial	1300	30
2526	1056	1224	0.352	11	1	Major Arterial	1300	30
2527	1224	1056	0.352	11	1	Major Arterial	1300	30
2528	1199	1218	3.057	12	1	Major Arterial	1300	55
2529	1218	1199	3.057	12	1	Major Arterial	1300	55
2530	964	1055	1.568	12	1	Major Arterial	1300	55
2531	1055	964	1.568	12	1	Major Arterial	1300	55
2532	1060	1080	0.481	11	1	Major Arterial	1300	30
2533	1080	1060	0.481	11	1	Major Arterial	1300	30
2534	1049	1053	0.567	11	1	Major Arterial	1300	35
2535	1053	1049	0.567	11	1	Major Arterial	1300	35
2536	727	1197	0.833	12	1	Ramp	1500	35
2537	1197	727	0.833	12	1	Ramp	1500	35
2538	738	737	1.019	12	2	Freeway	4100	65
2539	831	795	0.757	12	2	Freeway	4100	65
2540	793	791	0.854	12	2	Freeway	4100	65
2541	825	805	0.796	12	2	Freeway	4100	65
2542	1067	744	1.527	12	2	Freeway	4100	65
2543	1229	1067	0.481	12	2	Freeway	4100	65
2544	728	726	0.654	12	2	Freeway	4100	65
2545	1228	751	1.19	12	2	Freeway	4100	65
2546	733	729	1.184	12	2	Freeway	4100	65
2547	751	752	0.243	12	2	Freeway	4100	65
2548	735	733	0.225	12	2	Freeway	4100	65
2549	734	750	0.239	12	2	Freeway	4100	65
2550	753	741	0.525	12	2	Freeway	4100	65
2551	752	754	1.067	12	2	Freeway	4100	65
2552	736	732	1.257	12	2	Freeway	4100	65
2553	731	735	1.122	12	2	Freeway	4100	65
2554	732	1291	0.528	12	2	Freeway	4100	65
2555	730	734	1.24	12	2	Freeway	4100	65
2556	832	747	0.625	12	2	Freeway	4100	65
2557	834	721	1.343	12	2	Freeway	4100	65
2558	710	711	1.335	12	2	Freeway	4100	65
2559	721	274	2.528	12	2	Freeway	4100	65
2560	837	723	1.479	12	2	Freeway	4100	65
2561	716	715	1.592	12	2	Freeway	4100	65
2562	758	1230	0.611	12	1	Ramp	1500	35
2563	760	757	0.575	12	2	Freeway	4100	65
2564	838	1230	0.613	12	2	Freeway	4100	65
2565	1267	800	0.924	12	2	Freeway	4100	65
2566	772	1083	0.827	12	1	Principal Arterial	1600	45
2567	1083	772	0.827	12	1	Principal Arterial	1600	45
2568	1235	768	0.193	12	1	Ramp	1500	35
2569	782	1207	0.509	12	1	Major Arterial	1300	45
2570	1207	782	0.509	12	1	Major Arterial	1300	45
2571	773	1205	0.798	12	1	Major Arterial	1300	45
2572	1205	773	0.798	12	1	Major Arterial	1300	45
2573	1071	1072	0.528	12	1	Major Arterial	1300	45
2574	1072	1071	0.528	12	1	Major Arterial	1300	45
2575	1065	1245	0.328	12	2	Principal Arterial	2800	35

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
2576	1245	1065	0.328	12	2	Principal Arterial	2800	35
2577	1074	1200	0.501	12	1	Collector / Local Road	1300	40
2578	1200	1074	0.501	12	1	Collector / Local Road	1300	40
2579	814	1049	0.672	12	1	Major Arterial	1300	45
2580	1049	814	0.672	12	1	Major Arterial	1300	45
2581	817	1246	0.26	12	1	Major Arterial	1300	45
2582	1246	817	0.26	12	1	Major Arterial	1300	45
2583	780	1076	0.749	12	1	Principal Arterial	1600	45
2584	1076	780	0.749	12	1	Principal Arterial	1600	45
2585	1073	1074	0.876	12	1	Major Arterial	1300	45
2586	1074	1073	0.876	12	1	Major Arterial	1300	45
2587	782	1070	0.901	12	1	Principal Arterial	1600	30
2588	1070	782	0.901	12	1	Principal Arterial	1600	30
2589	1098	1290	0.247	12	1	Principal Arterial	1600	30
2590	1290	1098	0.247	12	1	Principal Arterial	1600	30
2591	820	1101	3.986	12	1	Principal Arterial	1600	55
2592	1101	820	3.986	12	1	Principal Arterial	1600	55
2593	790	830	0.863	12	1	Principal Arterial	1600	55
2594	1153	1155	0.462	12	2	Principal Arterial	2800	30
2595	1155	1153	0.462	12	2	Principal Arterial	2800	30
2596	475	531	0.498	12	1	Collector / Local Road	1300	40
2597	531	475	0.498	12	1	Collector / Local Road	1300	40
2598	283	546	0.499	12	1	Major Arterial	1300	45
2599	546	283	0.499	12	1	Major Arterial	1300	45
2600	283	648	0.394	12	1	Collector / Local Road	1300	40
2601	648	283	0.394	12	1	Collector / Local Road	1300	40
2602	545	645	1.036	12	1	Major Arterial	1300	45
2603	645	545	1.036	12	1	Major Arterial	1300	45
2604	543	649	1.611	12	1	Major Arterial	1300	45
2605	649	543	1.611	12	1	Major Arterial	1300	45
2606	686	687	0.912	12	1	Major Arterial	1300	45
2607	687	686	0.912	12	1	Major Arterial	1300	45
2608	1165	1168	0.784	12	1	Collector / Local Road	1300	40
2609	1168	1165	0.784	12	1	Collector / Local Road	1300	40
2610	1107	1113	1.205	12	1	Principal Arterial	1600	45
2611	1113	1107	1.205	12	1	Principal Arterial	1600	45
2612	230	1113	8.273	12	1	Major Arterial	1300	45
2613	1113	230	8.273	12	1	Major Arterial	1300	45
2614	1136	1137	0.359	12	2	Principal Arterial	3200	45
2615	1137	1136	0.359	12	2	Principal Arterial	3200	45
2616	1141	1259	0.241	12	1	Principal Arterial	1600	50
2617	1259	1141	0.241	12	1	Principal Arterial	1600	50
2618	235	1283	5.862	12	1	Principal Arterial	1600	55
2619	1283	235	5.862	12	1	Principal Arterial	1600	55
2620	1108	1114	0.491	12	1	Freeway	2050	55
2621	1191	1106	0.504	12	2	Freeway	4100	65
2622	1135	1193	0.822	12	2	Freeway	4100	65
2623	1262	1193	0.419	12	1	Ramp	1500	35
2624	1127	1128	0.328	12	1	Freeway	2050	55
2625	1261	1166	0.328	12	1	Ramp	1500	35
2626	1261	1167	0.379	12	2	Freeway	4100	65
2627	1125	1126	0.09	12	2	Principal Arterial	3200	45
2628	1262	1123	0.055	12	2	Principal Arterial	3200	45
2629	1188	1265	0.12	12	1	Ramp	1500	35
2630	1247	1184	0.18	12	2	Principal Arterial	3200	45
2631	842	1289	0.726	12	2	Minor Arterial	2600	40

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
2632	1289	843	0.721	12	2	Minor Arterial	2600	40
2633	399	400	2.511	12	2	Major Arterial	2700	45
2634	400	399	2.511	12	2	Major Arterial	2700	45
2635	391	393	1.997	12	2	Major Arterial	2700	45
2636	393	391	1.997	12	2	Major Arterial	2700	45
2637	594	704	1.257	12	2	Minor Arterial	2600	40
2638	704	594	1.257	12	2	Minor Arterial	2600	40
2639	661	662	0.996	12	1	Major Arterial	1300	45
2640	662	661	0.996	12	1	Major Arterial	1300	45
2641	503	661	2.013	12	1	Major Arterial	1300	45
2642	661	503	2.013	12	1	Major Arterial	1300	45
2643	1133	1263	0.484	12	2	Principal Arterial	3200	45
2644	659	660	1.996	12	1	Major Arterial	1300	45
2645	660	659	1.996	12	1	Major Arterial	1300	45
2646	355	659	1.334	12	1	Major Arterial	1300	45
2647	659	355	1.334	12	1	Major Arterial	1300	45
2648	398	399	3.222	12	2	Major Arterial	2700	45
2649	399	398	3.222	12	2	Major Arterial	2700	45
2650	417	424	1.34	12	1	Major Arterial	1300	45
2651	424	417	1.34	12	1	Major Arterial	1300	45
2652	169	172	0.997	12	1	Major Arterial	1300	45
2653	172	169	0.997	12	1	Major Arterial	1300	45
2654	280	578	1.003	12	2	Principal Arterial	3200	45
2655	578	280	1.003	12	2	Principal Arterial	3200	45
2656	345	574	1.196	12	2	Major Arterial	2700	45
2657	574	345	1.196	12	2	Major Arterial	2700	45
2658	393	429	1.324	12	1	Major Arterial	1300	45
2659	429	393	1.324	12	1	Major Arterial	1300	45
2660	266	372	1.071	12	1	Collector / Local Road	1300	45
2661	372	266	1.071	12	1	Collector / Local Road	1300	45
2662	163	889	1.906	12	2	Freeway	4100	65
2663	387	369	5.547	12	2	Freeway	4100	65
2664	863	924	0.675	12	2	Major Arterial	2700	35
2665	924	863	0.675	12	2	Major Arterial	2700	35
2666	694	329	2.775	12	2	Freeway	4100	65
2667	326	508	0.276	12	3	Freeway	6150	65
2668	510	844	1.177	12	3	Freeway	6150	65
2669	321	1314	8.301	12	2	Freeway	4100	65
2670	622	135	3.938	12	2	Freeway	4100	65
2671	145	625	3.978	12	2	Freeway	4100	65
2672	256	252	1.948	12	2	Freeway	4100	65
2673	174	153	1.712	12	2	Freeway	4100	65
2674	252	196	2.624	12	2	Freeway	4100	65
2675	194	175	2.326	12	2	Freeway	4100	65
2676	217	199	2.423	12	2	Freeway	4100	65
2677	200	212	1.634	12	2	Freeway	4100	65
2678	292	295	1.058	12	3	Freeway	6150	65
2679	293	291	1.013	12	3	Freeway	6150	65
2680	939	953	1.258	12	1	Major Arterial	1300	45
2681	953	939	1.258	12	1	Major Arterial	1300	45
2682	922	1274	4.616	12	2	Freeway	4100	65
2683	866	918	7.13	12	2	Freeway	4100	65
2684	871	852	9.229	12	2	Freeway	4100	65
2685	130	872	12.195	12	2	Freeway	4100	65
2686	1275	868	2.206	12	2	Freeway	4100	65
2687	986	1014	6.137	12	2	Freeway	4100	65

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
2688	1276	985	4.58	12	2	Freeway	4100	65
2689	882	1018	8.22	12	2	Freeway	4100	65
2690	1018	1013	1.43	12	2	Freeway	4100	65
2691	1016	883	6.538	12	2	Freeway	4100	65
2692	620	1045	1.318	12	1	Major Arterial	1300	45
2693	1045	620	1.318	12	1	Major Arterial	1300	45
2694	878	1045	1.057	12	1	Major Arterial	1300	45
2695	1045	878	1.057	12	1	Major Arterial	1300	45
2696	370	1316	3.373	12	2	Principal Arterial	3200	45
2697	1316	370	3.373	12	2	Principal Arterial	3200	45
2698	683	690	3.086	12	1	Major Arterial	1300	45
2699	690	683	3.086	12	1	Major Arterial	1300	45
2700	452	1278	1.831	12	1	Minor Arterial	1300	40
2701	1278	452	1.831	12	1	Minor Arterial	1300	40
2702	452	500	1.094	12	2	Principal Arterial	3200	45
2703	500	452	1.094	12	2	Principal Arterial	3200	45
2704	301	129	4.116	12	2	Freeway	4100	65
2705	894	308	5.652	12	2	Freeway	4100	65
2706	439	441	0.3	12	1	Collector / Local Road	1300	40
2707	441	439	0.3	12	1	Collector / Local Road	1300	40
2708	426	439	0.645	12	1	Major Arterial	1300	45
2709	439	426	0.645	12	1	Major Arterial	1300	45
2710	383	403	0.795	12	1	Collector / Local Road	1300	40
2711	403	383	0.795	12	1	Collector / Local Road	1300	40
2712	385	847	1.55	12	2	Major Arterial	2700	45
2713	847	385	1.55	12	2	Major Arterial	2700	45
2714	133	664	6.534	12	1	Principal Arterial	1600	55
2715	664	133	6.534	12	1	Principal Arterial	1600	55
2716	681	690	3.008	12	1	Principal Arterial	1600	55
2717	690	681	3.008	12	1	Principal Arterial	1600	55
2718	371	372	2.08	12	1	Collector / Local Road	1300	40
2719	372	371	2.08	12	1	Collector / Local Road	1300	40
2720	1104	1109	1.029	12	1	Minor Arterial	1300	40
2721	1109	1104	1.029	12	1	Minor Arterial	1300	40
2722	236	1282	1.097	12	1	Major Arterial	1300	40
2723	1282	236	1.097	12	1	Major Arterial	1300	40
2724	1136	1192	0.633	12	2	Principal Arterial	2800	30
2725	1192	1136	0.633	12	2	Principal Arterial	2800	30
2726	1162	1163	0.955	12	1	Principal Arterial	1600	50
2727	1163	1162	0.955	12	1	Principal Arterial	1600	50
2728	1143	1284	0.743	12	1	Principal Arterial	1600	35
2729	1284	1143	0.743	12	1	Principal Arterial	1600	35
2730	1141	1159	1.279	12	1	Minor Arterial	1300	40
2731	1159	1141	1.279	12	1	Minor Arterial	1300	40
2732	1138	1141	1.773	12	1	Principal Arterial	1600	50
2733	1141	1138	1.773	12	1	Principal Arterial	1600	50
2734	1209	1249	0.424	12	1	Principal Arterial	1600	50
2735	1249	1209	0.424	12	1	Principal Arterial	1600	50
2736	1209	1285	0.135	12	1	Principal Arterial	1600	55
2737	1285	1209	0.135	12	1	Principal Arterial	1600	55
2738	1200	1226	1.003	12	1	Collector / Local Road	1300	40
2739	1226	1200	1.003	12	1	Collector / Local Road	1300	40
2740	742	1217	4.234	12	1	Major Arterial	1300	45
2741	1217	742	4.234	12	1	Major Arterial	1300	45
2742	1061	1062	0.192	12	2	Principal Arterial	2800	30
2743	1062	1061	0.192	12	2	Principal Arterial	2800	30

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
2744	474	482	0.293	12	2	Principal Arterial	3200	45
2745	482	474	0.293	12	2	Principal Arterial	3200	45
2746	501	519	1.418	12	2	Principal Arterial	3200	45
2747	519	501	1.418	12	2	Principal Arterial	3200	45
2748	1068	1226	1.047	12	2	Principal Arterial	3200	45
2749	1226	1068	1.047	12	2	Principal Arterial	3200	45
2750	519	660	1.86	12	1	Major Arterial	1300	45
2751	660	519	1.86	12	1	Major Arterial	1300	45
2752	278	783	0.326	12	1	Ramp	1500	35
2753	588	589	1.422	12	2	Principal Arterial	3650	55
2754	589	588	1.422	12	2	Principal Arterial	3650	55
2755	122	124	0.388	11	1	Collector / Local Road	1300	30
2756	124	122	0.388	11	1	Collector / Local Road	1300	30
2757	899	905	1.506	12	1	Collector / Local Road	1300	55
2758	905	899	1.506	12	1	Collector / Local Road	1300	55
2759	124	1286	0.61	12	1	Major Arterial	1300	45
2760	1286	124	0.61	12	1	Major Arterial	1300	45
2761	703	705	0.845	12	1	Ramp	1500	35
2762	343	374	0.878	12	1	Collector / Local Road	1300	40
2763	374	343	0.878	12	1	Collector / Local Road	1300	40
2764	523	545	0.497	12	1	Major Arterial	1300	45
2765	545	523	0.497	12	1	Major Arterial	1300	45
2766	393	401	2.005	12	2	Major Arterial	2700	45
2767	401	393	2.005	12	2	Major Arterial	2700	45
2768	570	1310	0.225	12	1	Minor Arterial	1300	40
2769	1310	570	0.225	12	1	Minor Arterial	1300	40
2770	563	564	1.001	12	1	Collector / Local Road	1300	40
2771	564	563	1.001	12	1	Collector / Local Road	1300	40
2772	538	650	1.412	12	1	Collector / Local Road	1300	40
2773	650	538	1.412	12	1	Collector / Local Road	1300	40
2774	425	427	1.006	12	2	Principal Arterial	3200	45
2775	427	425	1.006	12	2	Principal Arterial	3200	45
2776	605	696	0.596	12	1	Minor Arterial	1300	40
2777	696	605	0.596	12	1	Minor Arterial	1300	40
2778	1189	1261	3.487	12	2	Freeway	4100	65
2779	1167	1135	3.506	12	2	Freeway	4100	65
2780	1128	1148	3.243	12	1	Freeway	2050	55
2781	1114	1131	5.855	12	1	Freeway	2050	55
2782	1124	1191	5.896	12	2	Freeway	4100	65
2783	1106	263	4.934	12	2	Freeway	4100	65
2784	889	1108	3.026	12	1	Freeway	2050	55
2785	1048	1119	2.901	12	1	Major Arterial	1300	45
2786	1119	1048	2.901	12	1	Major Arterial	1300	45
2787	1115	1254	1.814	12	1	Major Arterial	1300	45
2788	1254	1115	1.814	12	1	Major Arterial	1300	45
2789	1283	1287	1.326	12	1	Principal Arterial	1600	50
2790	1287	1283	1.326	12	1	Principal Arterial	1600	50
2791	1115	1132	3.125	12	1	Major Arterial	1300	55
2792	1132	1115	3.125	12	1	Major Arterial	1300	55
2793	1113	1281	3.713	12	1	Principal Arterial	1600	55
2794	1281	1113	3.713	12	1	Principal Arterial	1600	55
2795	1190	1255	0.913	12	2	Major Arterial	2700	35
2796	1255	1190	0.913	12	2	Major Arterial	2700	35
2797	1137	1190	0.241	12	2	Major Arterial	2700	30
2798	1190	1137	0.241	12	2	Major Arterial	2700	30
2799	1139	1144	2.495	12	2	Principal Arterial	2800	35

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
2800	1144	1139	2.495	12	2	Principal Arterial	2800	35
2801	1163	1169	13.354	12	1	Principal Arterial	1600	55
2802	1169	1163	13.354	12	1	Principal Arterial	1600	55
2803	1172	1178	0.526	12	1	Collector / Local Road	1300	40
2804	1178	1172	0.526	12	1	Collector / Local Road	1300	40
2805	1170	1172	0.765	12	1	Collector / Local Road	1300	40
2806	1172	1170	0.765	12	1	Collector / Local Road	1300	40
2807	1178	1181	1.084	12	1	Major Arterial	1300	45
2808	1181	1178	1.084	12	1	Major Arterial	1300	45
2809	805	1090	3.136	12	2	Freeway	4100	65
2810	1092	803	3.355	12	2	Freeway	4100	65
2811	804	1232	8.13	12	2	Freeway	4100	65
2812	800	825	8.644	12	2	Freeway	4100	65
2813	795	1267	7.238	12	2	Freeway	4100	65
2814	798	793	8.361	12	2	Freeway	4100	65
2815	884	831	2.292	12	2	Freeway	4100	65
2816	791	885	3.752	12	2	Freeway	4100	65
2817	787	1041	1.194	12	1	Major Arterial	1300	45
2818	1041	787	1.194	12	1	Major Arterial	1300	45
2819	1094	1103	7.838	12	1	Minor Arterial	1300	40
2820	1103	1094	7.838	12	1	Minor Arterial	1300	40
2821	862	1099	0.847	12	1	Principal Arterial	1600	45
2822	1099	862	0.847	12	1	Principal Arterial	1600	45
2823	1099	1103	1.078	12	1	Principal Arterial	1600	45
2824	1103	1099	1.078	12	1	Principal Arterial	1600	45
2825	789	1214	0.131	12	1	Principal Arterial	1600	40
2826	1214	789	0.131	12	1	Principal Arterial	1600	40
2827	784	787	4.036	12	1	Principal Arterial	1600	55
2828	787	784	4.036	12	1	Principal Arterial	1600	55
2829	785	1103	1.983	12	1	Minor Arterial	1300	40
2830	1103	785	1.983	12	1	Minor Arterial	1300	40
2831	808	822	1.909	12	1	Principal Arterial	1600	55
2832	822	808	1.909	12	1	Principal Arterial	1600	55
2833	1087	1097	0.253	12	1	Principal Arterial	1600	30
2834	1097	1087	0.253	12	1	Principal Arterial	1600	30
2835	815	1098	0.634	12	1	Principal Arterial	1600	30
2836	1098	815	0.634	12	1	Principal Arterial	1600	30
2837	1089	265	1.13	12	2	Principal Arterial	3200	45
2838	811	1089	1.131	12	2	Principal Arterial	3200	45
2839	1087	1088	0.547	12	1	Principal Arterial	1600	45
2840	1088	1087	0.547	12	1	Principal Arterial	1600	45
2841	843	1215	5.211	12	1	Minor Arterial	1300	40
2842	792	1100	11.919	12	1	Principal Arterial	1600	55
2843	1100	792	11.919	12	1	Principal Arterial	1600	55
2844	1094	1101	8.781	12	1	Major Arterial	1300	45
2845	1101	1094	8.781	12	1	Major Arterial	1300	45
2846	1215	842	5.207	12	1	Minor Arterial	1300	40
2847	823	1089	0.474	12	2	Principal Arterial	3200	45
2848	1089	823	0.474	12	2	Principal Arterial	3200	45
2849	1097	1210	0.324	12	1	Collector / Local Road	1300	40
2850	1210	1097	0.324	12	1	Collector / Local Road	1300	40
2851	1230	279	2.333	12	2	Freeway	4100	65
2852	277	760	2.421	12	2	Freeway	4100	65
2853	1227	838	1.718	12	2	Freeway	4100	65
2854	757	753	1.507	12	2	Freeway	4100	65
2855	749	728	1.118	12	2	Freeway	4100	65

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
2856	729	1229	1.423	12	2	Freeway	4100	65
2857	726	1228	1.692	12	2	Freeway	4100	65
2858	715	273	3.264	12	2	Freeway	4100	65
2859	271	837	3.746	12	2	Freeway	4100	65
2860	920	716	8.123	12	2	Freeway	4100	65
2861	723	923	8.727	12	2	Freeway	4100	65
2862	747	834	9.417	12	2	Freeway	4100	65
2863	711	738	8.915	12	2	Freeway	4100	65
2864	737	731	1.939	12	2	Freeway	4100	65
2865	754	832	2.096	12	2	Freeway	4100	65
2866	1182	1260	1.898	12	2	Principal Arterial	3200	45
2867	1260	1182	1.898	12	2	Principal Arterial	3200	45
2868	1218	1296	2.906	12	1	Major Arterial	1300	55
2869	1296	1218	2.906	12	1	Major Arterial	1300	55
2870	1219	1220	0.934	12	1	Major Arterial	1300	45
2871	1220	1219	0.934	12	1	Major Arterial	1300	45
2872	1218	1219	3.204	12	1	Major Arterial	1300	55
2873	1219	1218	3.204	12	1	Major Arterial	1300	55
2874	1180	1260	0.444	12	2	Major Arterial	2700	45
2875	1260	1180	0.444	12	2	Major Arterial	2700	45
2876	1166	1295	0.125	12	1	Ramp	1500	35
2877	1295	1166	0.125	12	1	Ramp	1500	35
2878	1154	1295	0.068	12	2	Principal Arterial	3200	45
2879	1295	1154	0.068	12	2	Principal Arterial	3200	45
2880	1198	1302	1.192	12	1	Major Arterial	1300	55
2881	1302	1198	1.192	12	1	Major Arterial	1300	55
2882	1104	1121	5.665	12	2	Principal Arterial	3200	45
2883	1121	1104	5.665	12	2	Principal Arterial	3200	45
2884	1142	1263	1.99	12	2	Principal Arterial	3200	45
2885	1263	1142	1.99	12	2	Principal Arterial	3200	45
2886	1142	1156	0.826	12	1	Minor Arterial	1300	40
2887	1156	1142	0.826	12	1	Minor Arterial	1300	40
2888	742	1059	1.521	12	1	Major Arterial	1300	55
2889	1059	742	1.521	12	1	Major Arterial	1300	55
2890	1059	1225	0.578	11	1	Major Arterial	1300	35
2891	1225	1059	0.578	11	1	Major Arterial	1300	35
2892	1104	1256	1.862	12	2	Principal Arterial	3200	45
2893	1256	1104	1.862	12	2	Principal Arterial	3200	45
2894	739	1051	3.099	12	1	Major Arterial	1300	55
2895	1051	739	3.099	12	1	Major Arterial	1300	55
2896	1052	1223	3.884	12	1	Major Arterial	1300	45
2897	1223	1052	3.884	12	1	Major Arterial	1300	45
2898	1055	1297	0.053	12	1	Minor Arterial	1300	40
2899	1297	1055	0.053	12	1	Minor Arterial	1300	40
2900	814	1055	1.004	11	1	Major Arterial	1300	30
2901	1055	814	1.004	11	1	Major Arterial	1300	30
2902	873	1206	0.744	12	1	Collector / Local Road	800	45
2903	1206	873	0.744	12	1	Collector / Local Road	800	45
2904	1084	1300	1.453	12	1	Major Arterial	1300	55
2905	1300	1084	1.453	12	1	Major Arterial	1300	55
2906	1151	1185	4.25	12	1	Freeway	2050	55
2907	835	1063	0.893	12	2	Principal Arterial	3200	40
2908	1063	835	0.893	12	2	Principal Arterial	3200	40
2909	234	1254	6.043	12	1	Major Arterial	1300	55
2910	1254	234	6.043	12	1	Major Arterial	1300	55
2911	1064	1245	0.462	12	2	Principal Arterial	3200	45

Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
2912	1245	1064	0.462	12	2	Principal Arterial	3200	45
2913	848	1065	0.469	12	2	Principal Arterial	2800	30
2914	1065	848	0.469	12	2	Principal Arterial	2800	30
2915	1217	1246	0.888	12	1	Major Arterial	1300	55
2916	1246	1217	0.888	12	1	Major Arterial	1300	55
2917	818	1057	4.783	12	1	Major Arterial	1300	55
2918	1057	818	4.783	12	1	Major Arterial	1300	55
2919	707	1078	0.497	12	1	Major Arterial	1300	55
2920	1078	707	0.497	12	1	Major Arterial	1300	55
2921	1066	1081	5.628	11	1	Minor Arterial	1300	35
2922	1081	1066	5.628	11	1	Minor Arterial	1300	35
2923	755	818	0.447	12	2	Principal Arterial	2800	35
2924	818	755	0.447	12	2	Principal Arterial	2800	35
2925	1234	1303	7.121	12	1	Major Arterial	1300	55
2926	1303	1234	7.121	12	1	Major Arterial	1300	55
2927	833	1075	0.348	12	2	Major Arterial	2700	45
2928	1075	833	0.348	12	2	Major Arterial	2700	45
2929	1076	1083	1.894	12	1	Principal Arterial	1600	45
2930	1083	1076	1.894	12	1	Principal Arterial	1600	45
2931	1076	1205	0.788	12	1	Major Arterial	1300	45
2932	1205	1076	0.788	12	1	Major Arterial	1300	45
2933	782	840	0.99	12	1	Principal Arterial	1600	35
2934	840	782	0.99	12	1	Principal Arterial	1600	35
2935	1304	1305	0.114	12	1	Principal Arterial	1600	40
2936	1305	1304	0.114	12	1	Principal Arterial	1600	40
2937	1207	1240	2.044	12	1	Major Arterial	1300	45
2938	1240	1207	2.044	12	1	Major Arterial	1300	45
2939	1240	1241	1.091	12	1	Principal Arterial	1600	55
2940	1241	1240	1.091	12	1	Principal Arterial	1600	55
2941	776	1070	0.293	12	1	Principal Arterial	1600	35
2942	1070	776	0.293	12	1	Principal Arterial	1600	35
2943	775	1242	0.383	12	1	Principal Arterial	1600	35
2944	1242	775	0.383	12	1	Principal Arterial	1600	35
2945	773	774	1.768	12	1	Major Arterial	1300	45
2946	774	773	1.768	12	1	Major Arterial	1300	45
2947	1201	1244	1.326	12	1	Major Arterial	1300	45
2948	1244	1201	1.326	12	1	Major Arterial	1300	45
2949	777	1201	2.672	12	1	Major Arterial	1300	45
2950	1201	777	2.672	12	1	Major Arterial	1300	45
2951	1234	1244	1.217	12	1	Major Arterial	1300	55
2952	1244	1234	1.217	12	1	Major Arterial	1300	55
2953	819	1243	0.675	12	1	Major Arterial	1300	50
2954	1243	819	0.675	12	1	Major Arterial	1300	50
2955	1071	1231	1.193	12	1	Major Arterial	1300	45
2956	1231	1071	1.193	12	1	Major Arterial	1300	45
2957	1072	1073	0.132	12	1	Major Arterial	1300	45
2958	1073	1072	0.132	12	1	Major Arterial	1300	45
2959	725	1074	1.145	12	1	Major Arterial	1300	45
2960	1074	725	1.145	12	1	Major Arterial	1300	45
2961	773	813	2.099	12	1	Major Arterial	1300	45
2962	813	773	2.099	12	1	Major Arterial	1300	45
2963	1064	1303	0.653	12	1	Major Arterial	1300	45
2964	1303	1064	0.653	12	1	Major Arterial	1300	45
2965	848	1301	1.353	12	2	Principal Arterial	2800	30
2966	1301	848	1.353	12	2	Principal Arterial	2800	30
2967	1200	1203	1.003	12	1	Major Arterial	1300	45

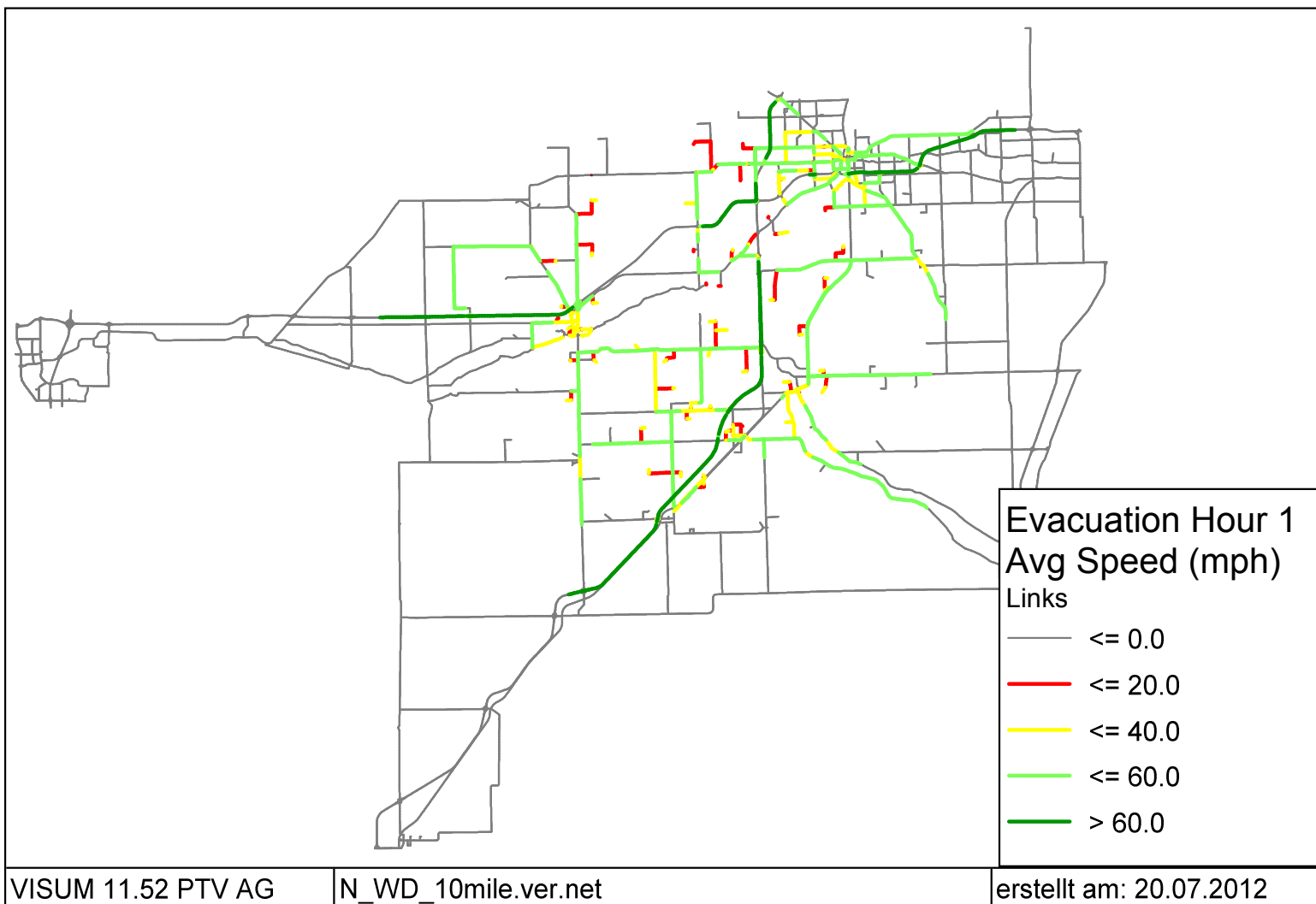
Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
2968	1203	1200	1.003	12	1	Major Arterial	1300	45
2969	1201	1234	1.038	12	1	Major Arterial	1300	45
2970	1234	1201	1.038	12	1	Major Arterial	1300	45
2971	1243	1244	2.166	12	1	Major Arterial	1300	55
2972	1244	1243	2.166	12	1	Major Arterial	1300	55
2973	777	1240	1.329	12	1	Principal Arterial	1600	55
2974	1240	777	1.329	12	1	Principal Arterial	1600	55
2975	190	192	2.007	12	1	Minor Arterial	1300	40
2976	192	190	2.007	12	1	Minor Arterial	1300	40
2977	190	208	2.524	12	1	Major Arterial	1300	45
2978	208	190	2.524	12	1	Major Arterial	1300	45
2979	233	241	0.954	12	1	Principal Arterial	1600	45
2980	241	233	0.954	12	1	Principal Arterial	1600	45
2981	557	551	0.494	12	2	Freeway	4100	65
2982	1309	1308	0.173	12	2	Freeway	4100	65
2983	345	886	0.586	12	2	Major Arterial	2700	45
2984	886	345	0.586	12	2	Major Arterial	2700	45
2985	509	494	0.125	12	1	Minor Arterial	1300	40
2986	494	483	0.196	12	1	Minor Arterial	1300	40
2987	312	700	1.356	12	2	Freeway	4100	65
2988	303	313	1.324	12	2	Freeway	4100	65
2989	483	492	0.196	12	1	Minor Arterial	1300	40
2990	484	544	2.354	12	2	Principal Arterial	3200	45
2991	544	484	2.354	12	2	Principal Arterial	3200	45
2992	491	325	0.317	12	3	Freeway	6150	65
2993	424	429	2.036	12	1	Major Arterial	1300	45
2994	429	424	2.036	12	1	Major Arterial	1300	45
2995	1311	328	0.512	12	2	Freeway	4100	60
2996	505	530	0.452	12	2	Freeway	4100	60
2997	300	694	0.453	12	2	Freeway	4100	65
2998	327	299	1.325	12	2	Freeway	4100	65
2999	324	511	0.076	12	3	Freeway	6150	65
3000	508	510	0.446	12	3	Freeway	6150	65
3001	845	493	0.904	12	3	Freeway	6150	65
3002	495	496	0.542	12	2	Freeway	4100	65
3003	844	516	0.251	12	2	Freeway	4100	65
3004	252	173	0.736	12	1	Ramp	1500	35
3005	338	318	7.725	12	2	Freeway	4100	65
3006	497	320	3.465	12	2	Freeway	4100	65
3007	337	387	0.579	12	2	Freeway	4100	65
3008	367	353	0.531	12	2	Principal Arterial	3200	45
3009	336	1313	2.828	12	2	Freeway	4100	65
3010	686	1279	0.581	12	1	Collector / Local Road	1300	40
3011	1279	686	0.581	12	1	Collector / Local Road	1300	40
3012	549	1279	0.636	12	2	Principal Arterial	3200	45
3013	1279	549	0.636	12	2	Principal Arterial	3200	45
3014	500	1316	1.007	12	2	Principal Arterial	2800	35
3015	1316	500	1.007	12	2	Principal Arterial	2800	35
3016	361	370	1.51	12	1	Major Arterial	1300	45
3017	370	361	1.51	12	1	Major Arterial	1300	45
3018	536	533	0.307	12	2	Freeway	4100	65
3019	298	592	0.048	12	2	Freeway	4100	65
3020	158	691	7.469	12	2	Freeway	4100	65
3021	693	160	7.431	12	2	Freeway	4100	65
3022	359	335	0.832	12	2	Principal Arterial	3200	45
3023	1033	1326	1.017	10	1	Collector / Local Road	800	15

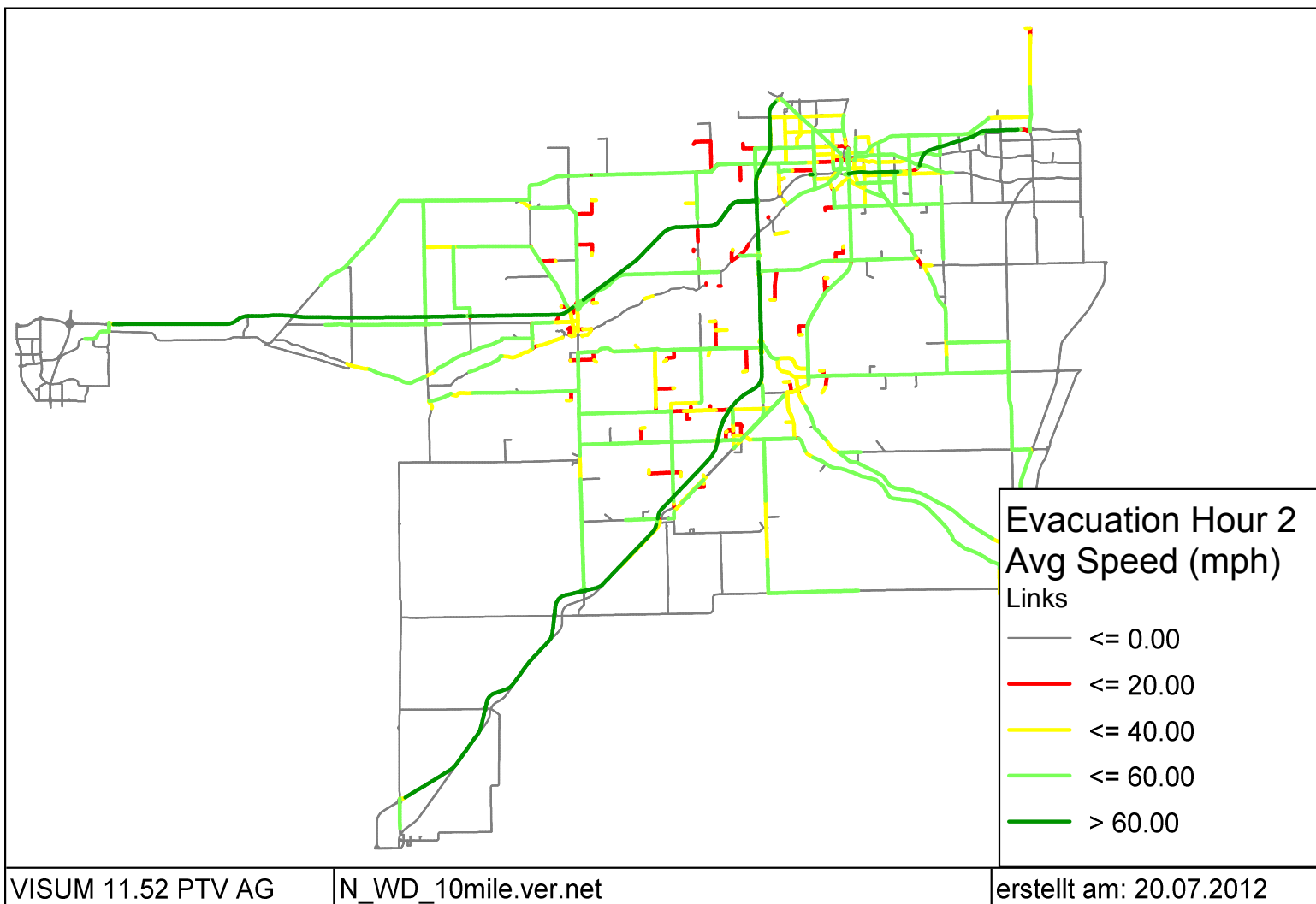
Link #	U-Node	D-Node	Length (mi)	Lane Width (ft)	Number of Lanes	Roadway Type	Saturation Flow Rate (veh/hr)	FFS (mph)
3024	1326	1033	1.017	10	1	Collector / Local Road	800	15
3025	863	1327	2.236	10	1	Collector / Local Road	800	15
3026	1327	863	2.236	10	1	Collector / Local Road	800	15
3027	937	1329	2.334	10	1	Collector / Local Road	800	15
3028	1329	937	2.334	10	1	Collector / Local Road	800	15
3029	941	1330	1.781	10	1	Collector / Local Road	800	15
3030	1330	941	1.781	10	1	Collector / Local Road	800	15
3031	898	1333	5.256	10	1	Collector / Local Road	800	15
3032	1333	898	5.256	10	1	Collector / Local Road	800	15
3033	125	1334	6.203	10	1	Collector / Local Road	800	15
3034	1334	125	6.203	10	1	Collector / Local Road	800	15
3035	627	1346	4.431	10	1	Collector / Local Road	800	15
3036	1346	627	4.431	10	1	Collector / Local Road	800	15
3037	1029	1366	3.589	10	1	Collector / Local Road	800	15
3038	1366	1029	3.589	10	1	Collector / Local Road	800	15
3039	202	1373	2.078	10	1	Collector / Local Road	800	15
3040	1373	202	2.078	10	1	Collector / Local Road	800	15
3041	997	1375	0.724	10	1	Collector / Local Road	800	15
3042	1375	997	0.724	10	1	Collector / Local Road	800	15
3043	1001	1376	2.201	10	1	Collector / Local Road	800	15
3044	1376	1001	2.201	10	1	Collector / Local Road	800	15
3045	1015	1379	2.576	10	1	Collector / Local Road	800	15
3046	1379	1015	2.576	10	1	Collector / Local Road	800	15
3047	1023	1380	1.686	10	1	Collector / Local Road	800	15
3048	1380	1023	1.686	10	1	Collector / Local Road	800	15
3049	953	1387	3.296	10	1	Collector / Local Road	800	15
3050	1387	953	3.296	10	1	Collector / Local Road	800	15
3051	849	1394	3.576	10	1	Collector / Local Road	800	15
3052	1394	849	3.576	10	1	Collector / Local Road	800	15
3053	613	1395	6.404	10	1	Collector / Local Road	800	15
3054	1395	613	6.404	10	1	Collector / Local Road	800	15
3055	1280	1397	1.26	10	1	Collector / Local Road	800	15
3056	1397	1280	1.26	10	1	Collector / Local Road	800	15
3057	849	155	7.741	12	2	Principal Arterial	3650	55
3058	654	1402	10.515	12	2	Principal Arterial	3650	55
3059	634	1402	0.057	12	2	Principal Arterial	3650	55
3060	1402	634	0.057	12	2	Principal Arterial	3650	55
3061	1402	655	3.208	12	2	Principal Arterial	3650	55

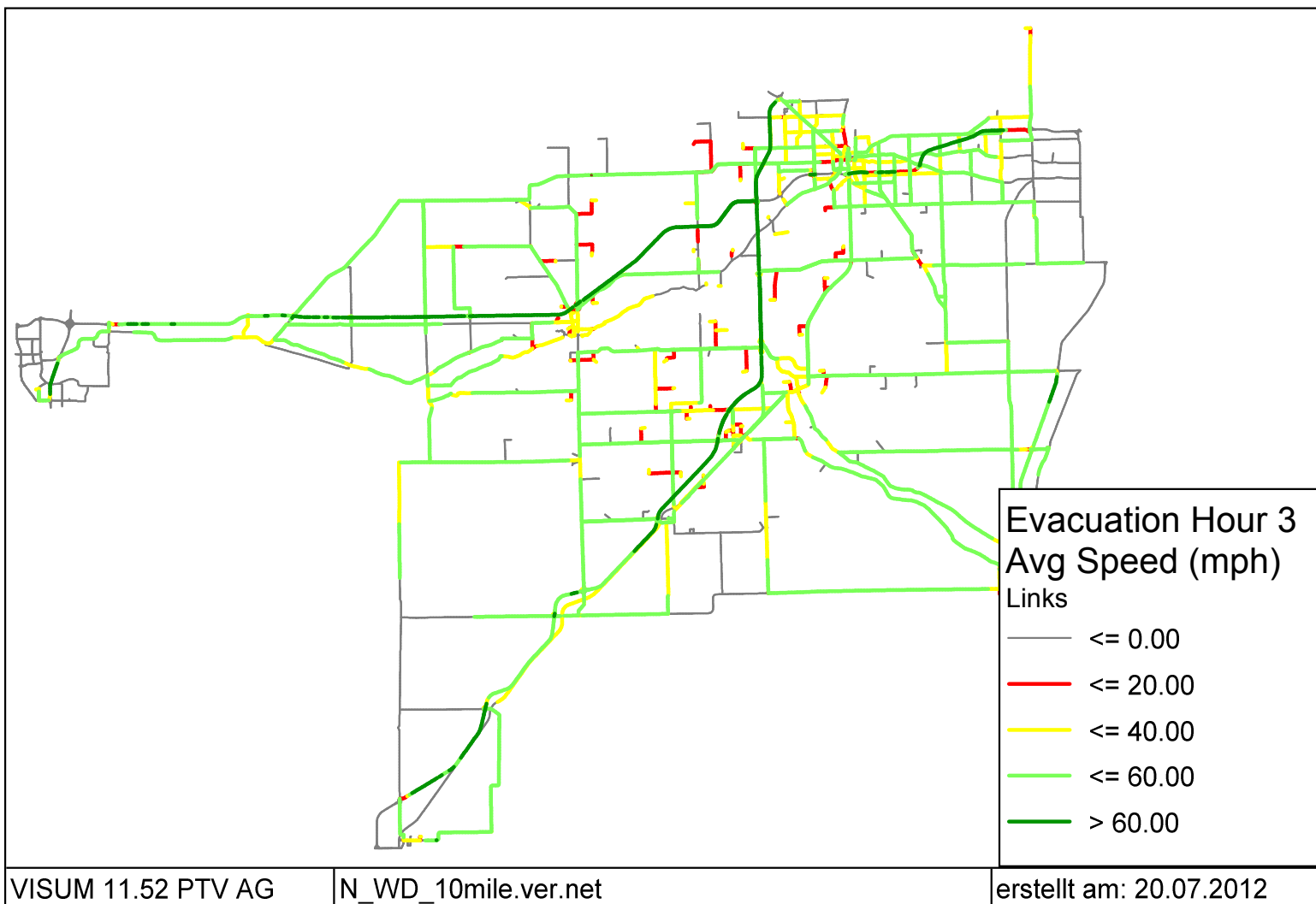


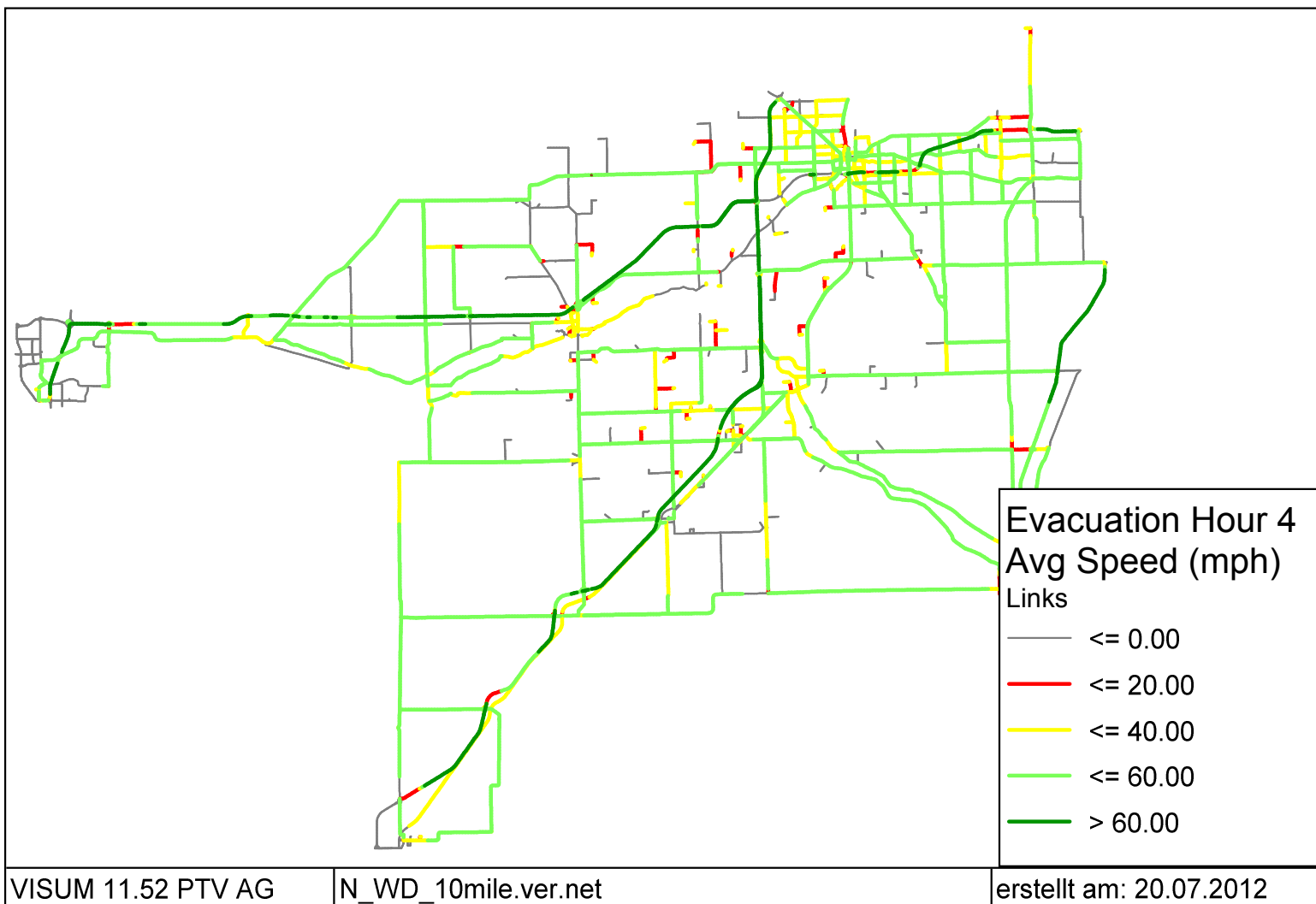
Appendix D

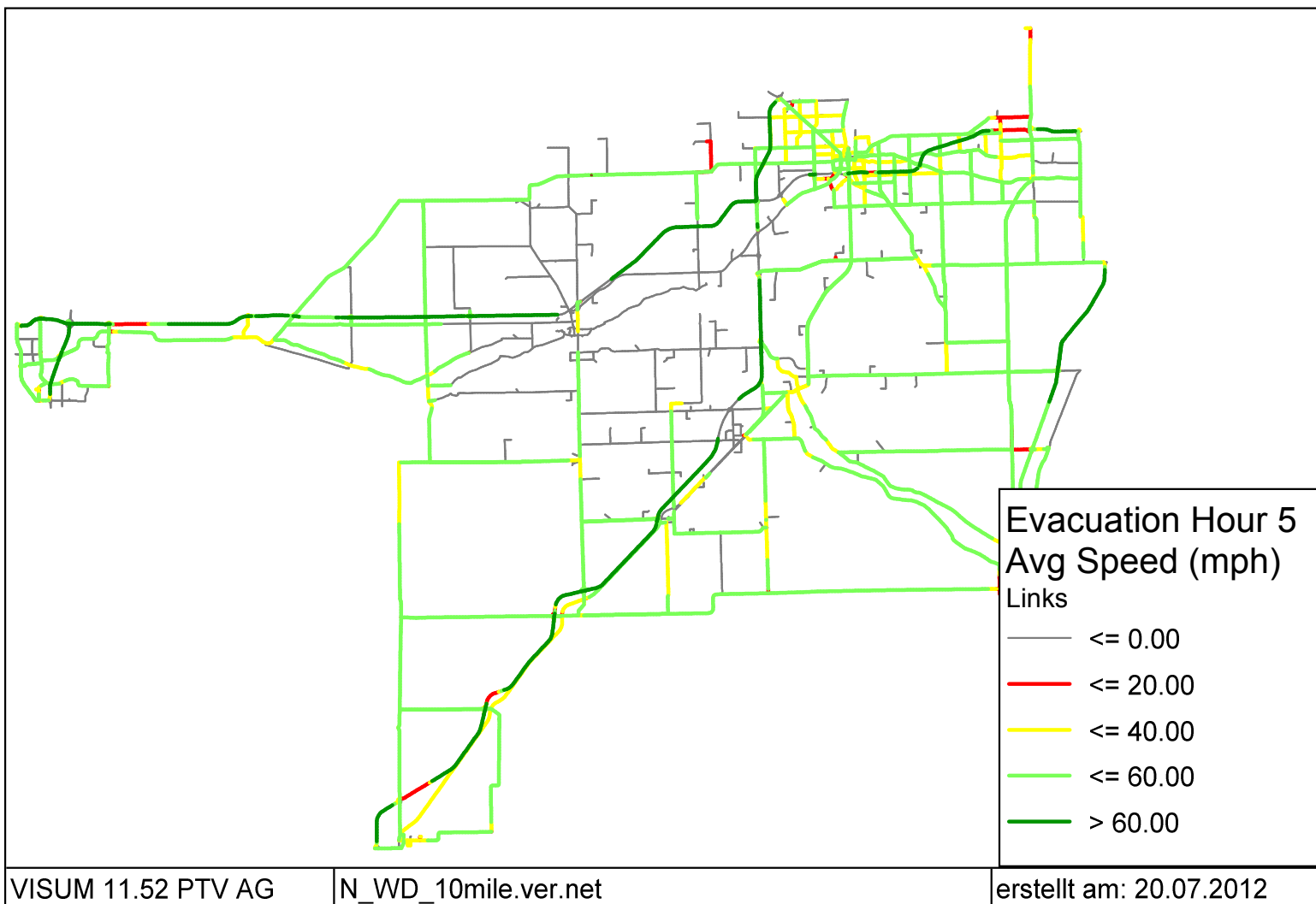
**Average Speed by Roadway Link
by Hour (Winter Day, Full EPZ)**

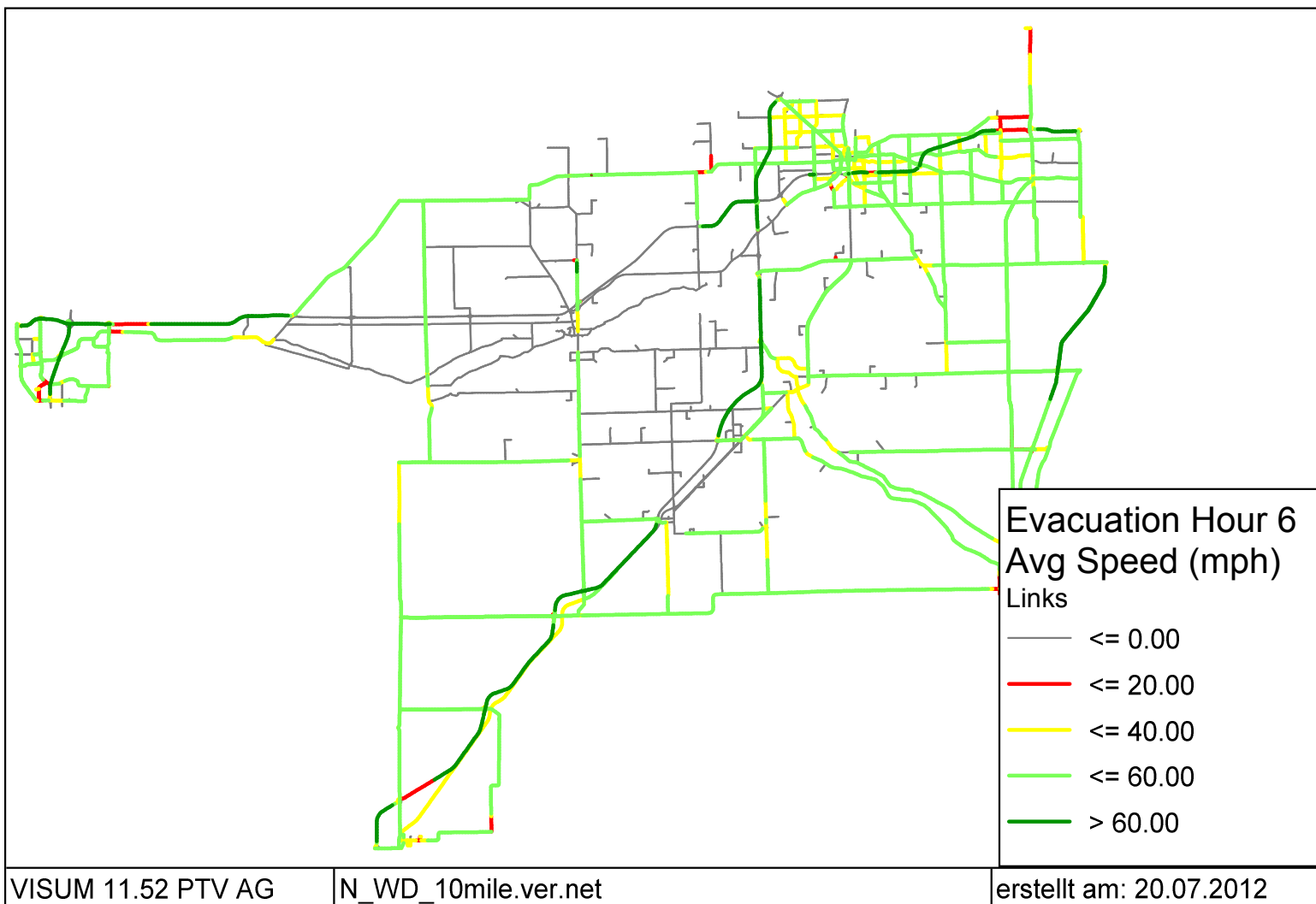


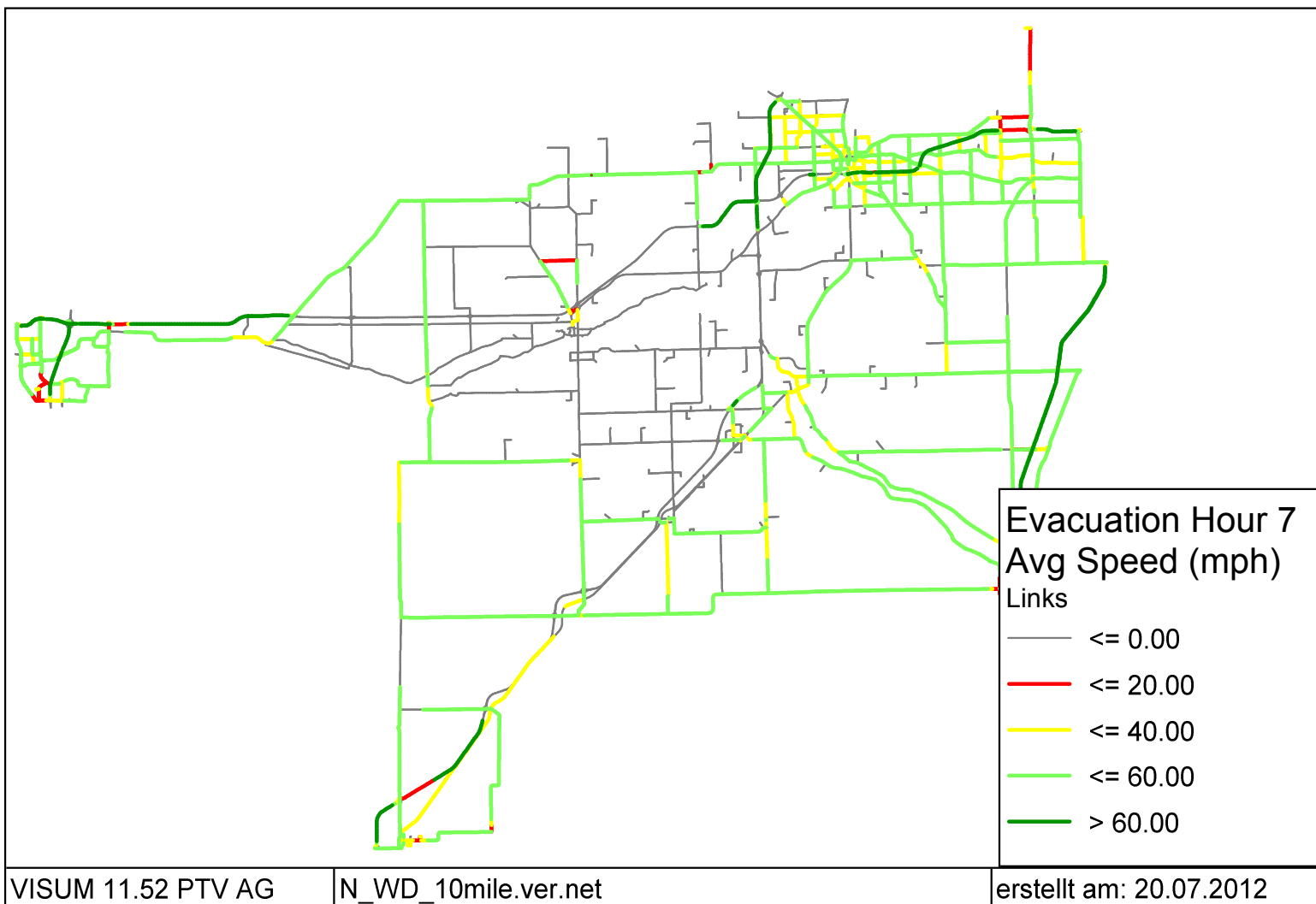












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