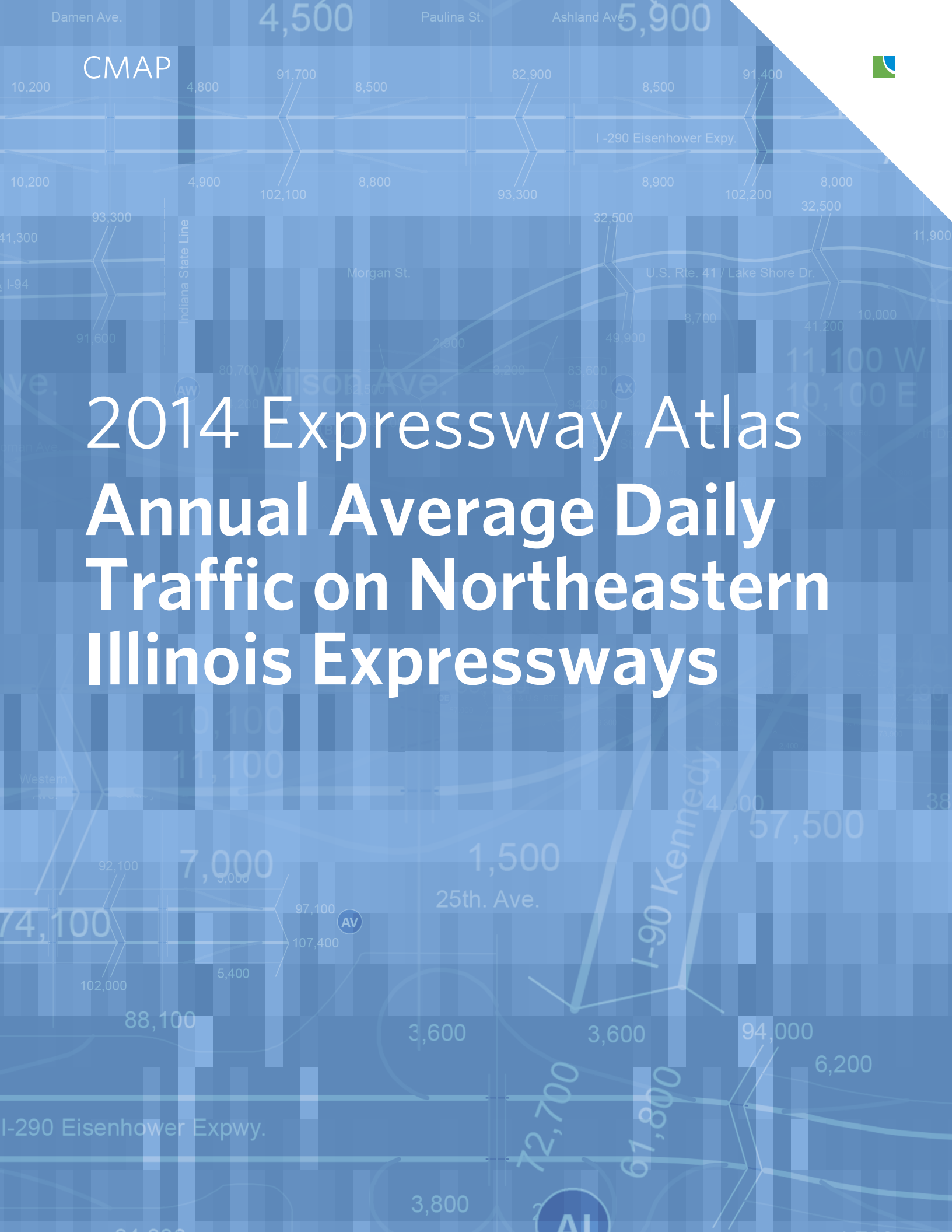
CMAP




# 2014 Expressway Atlas

# Annual Average Daily Traffic on Northeastern Illinois Expressways

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# 2014 Expressway Atlas

## Part 1: Introduction, Methods, System Data

# Introduction

The 2014 Expressway Atlas provides a desktop reference of annual average daily traffic (AADT) volumes and other traffic system statistics, as well as graphics, for northeastern Illinois. The data included in the Expressway Atlas is useful as baseline data for traffic planning, an input to traffic simulation models, and other expressway system studies such as safety analysis and pavement design.

Overall, on segments monitored in both 2013 and 2014, average daily vehicle miles traveled (VMT) on the Chicago region's expressway system fell 0.145% from 25,522,745 to 25,485,662. This continues a trend since the mid-2000s of little or no VMT growth in the Chicago region, despite the recent economic recovery. The 2014 Expressway Atlas also reflects the addition of 30 centerline miles of expressway monitoring by the Illinois Department of Transportation (IDOT). The newly monitored segments total almost 1.64 million daily VMT.

# Methods

The 2014 Expressway Atlas provides a graphic depiction of CMAP-estimated 2014 traffic volumes on IDOT expressways and ramps in northeastern Illinois that are equipped with traffic counting devices. The analysis period extends from December 2013 to November 2014.[1] The data and estimates are shared between IDOT and CMAP in a cooperative arrangement.

This atlas is an update of the 2012 Expressway Atlas, posted under Road Resources at http://www.cmap.illinois.gov/mobility/roads. The 2012 Atlas provides more extensive information on the expressway system than this atlas, including system data, daily and monthly factors, AADT tables, and hourly percent tables, and remains a valid reference for regional traffic planners.

The primary source of IDOT traffic count data are inductive loop detectors, which are embedded in the pavement along the IDOT system, including entrance and exit ramps. The inductive loop detects the presence and passage of vehicles and is transmitted to a central control system. IDOT then applies an algorithm to calculate a count from the percent of time the inductive loop detects vehicles.

The 2014 Expressway Atlas contains figures and graphics at the regional level and at the facility level, as well as detailed AADT flow graphics. CMAP staff used the American Association of State Highway and Transportation Officials (AASHTO) formula for calculating pre-balanced AADT for each mainline count station and ramp on the IDOT system.

[1] The one-month offset from a calendar year is to facilitate the completion of AADT estimates in time for inclusion in IDOT's annual public release of the Illinois Highway Information System (IHIS).

The AASHTO method calculates an average day of week for each month, then an annual average value for each day of the week. Finally, a single annual average daily value is computed for each ramp and mainline count station. This method helps to clean the data of counting errors caused by equipment failure or the effects of non-representative days, such as blizzards or floods, that produce severe outliers in the data.[2]

Many of the figures and graphics were produced through a process of traffic balancing, which adjusts ramp counts, when necessary, to match mainline station counts. In the event of missing count data for the entire year or if the AADT for a location was determined to have data quality issues, historical count information was used in the balancing process.

The regional figures and graphics provide area-wide traffic trends for the year 2014. Through the balancing process, an AADT estimate for all mainline count stations and ramps is calculated. With this data, along with milepost information, an average daily expressway VMT estimate is calculated for each facility; then a regional total is calculated. This information is displayed in the average daily VMT table along with historical VMT data. The mainline AADT map provides a visual display of the distribution of traffic on IDOT expressways for an average day in 2014.

The flow graphics provide detailed AADT volumes for the entire IDOT expressway system equipped with counting devices. The AADT flow graphics provide link-by-link and ramp-by-ramp counts using highly detailed drawings representing portions of each expressway facility.

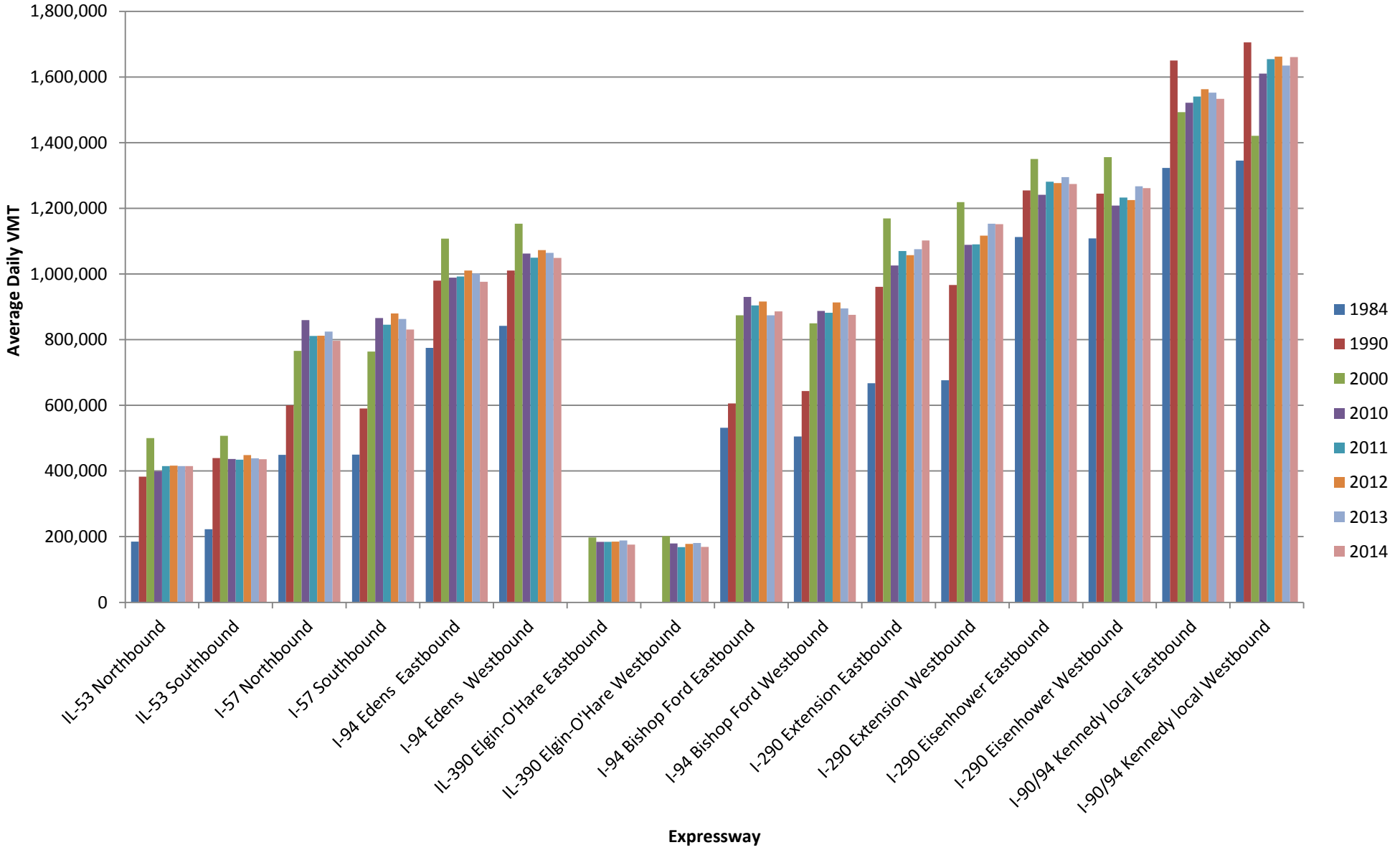
[2] Federal Highway Administration, *Traffic Monitoring Guide*, September, 2013. Pp 1-5 – 1-6. Posted at http://www.fhwa.dot.gov/policyinformation/tmguide/tmg_fhwa_pl_13_015.pdf (accessed April, 2015).

## IDOT ÝÌÙÈÎÌ#ÈÐÓà Expressway VMT from Roadway Detectors in the CMAP Region

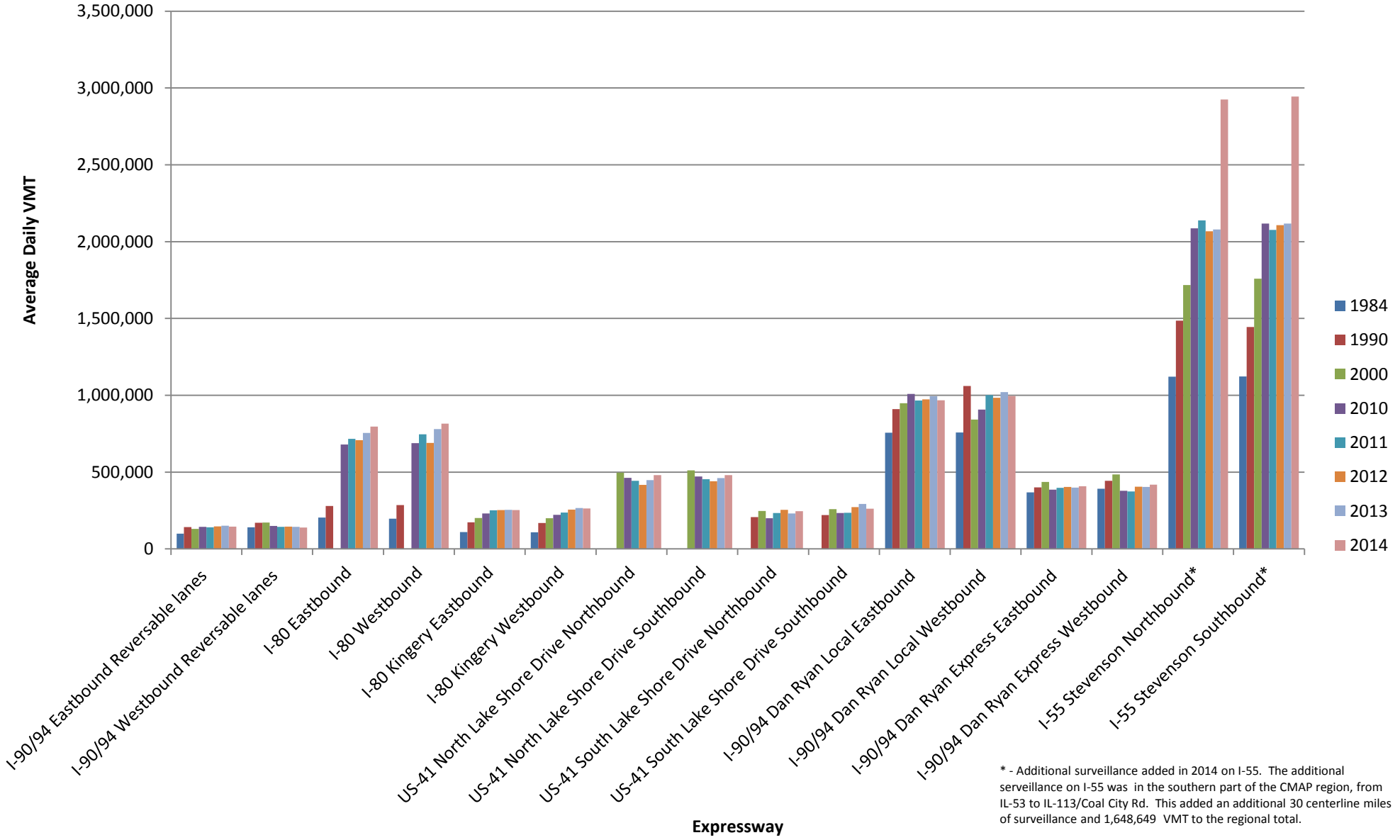
| Expressway | 1984 | 1990 | 2000 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|
| IL-53 Northbound | 184,775 | 382,559 | 500,161 | 398,911 | 415,198 | 416,348 | 414,881 | 414,597 |
| IL-53 Southbound | 222,958 | 439,638 | 506,883 | 436,544 | 434,350 | 448,235 | 439,043 | 435,572 |
| I-57 Northbound | 449,404 | 600,477 | 766,188 | 859,724 | 811,451 | 811,917 | 824,512 | 796,476 |
| I-57 Southbound | 450,132 | 590,271 | 763,534 | 865,977 | 845,347 | 879,837 | 862,798 | 830,648 |
| I-94 Edens Eastbound | 775,174 | 979,936 | 1,107,772 | 988,640 | 992,318 | 1,010,812 | 1,001,214 | 976,040 |
| I-94 Edens Westbound | 842,212 | 1,010,654 | 1,153,287 | 1,061,950 | 1,049,598 | 1,072,793 | 1,064,185 | 1,048,857 |
| IL-390 Elgin-O'Hare Eastbound | - | - | 197,453 | 184,398 | 184,150 | 185,238 | 188,669 | 175,910 |
| IL-390 Elgin-O'Hare Westbound | - | - | 201,784 | 179,244 | 168,272 | 178,240 | 180,668 | 168,538 |
| I-94 Bishop Ford Eastbound | 531,841 | 606,038 | 874,268 | 930,082 | 904,375 | 916,157 | 874,343 | 885,802 |
| I-94 Bishop Ford Westbound | 504,978 | 643,850 | 849,725 | 887,430 | 882,056 | 913,156 | 895,083 | 875,588 |
| I-290 Extension Eastbound | 667,494 | 960,999 | 1,169,370 | 1,025,605 | 1,069,764 | 1,057,543 | 1,075,668 | 1,102,367 |
| I-290 Extension Westbound | 676,384 | 966,399 | 1,218,710 | 1,089,012 | 1,090,526 | 1,117,046 | 1,153,506 | 1,151,757 |
| I-290 Eisenhower Eastbound | 1,112,610 | 1,254,417 | 1,350,628 | 1,240,984 | 1,281,044 | 1,276,993 | 1,295,108 | 1,273,843 |
| I-290 Eisenhower Westbound | 1,108,271 | 1,245,097 | 1,355,959 | 1,208,316 | 1,232,798 | 1,225,190 | 1,266,820 | 1,261,211 |
| I-90/94 Kennedy local Eastbound | 1,323,081 | 1,650,155 | 1,493,186 | 1,521,475 | 1,540,208 | 1,562,777 | 1,552,443 | 1,533,377 |
| I-90/94 Kennedy local Westbound | 1,345,714 | 1,705,321 | 1,421,093 | 1,610,128 | 1,654,570 | 1,662,107 | 1,634,997 | 1,660,831 |
| I-90/94 Eastbound Reversable lanes | 99,120 | 143,016 | 131,131 | 144,043 | 140,927 | 146,118 | 151,981 | 144,734 |
| I-90/94 Westbound Reversable lanes | 141,007 | 170,700 | 172,443 | 149,834 | 143,824 | 145,759 | 143,143 | 139,854 |
| I-80 Eastbound | 204,615 | 279,835 | - | 679,775 | 717,094 | 707,665 | 755,427 | 796,018 |
| I-80 Westbound | 196,909 | 285,918 | - | 689,195 | 746,275 | 690,396 | 780,454 | 815,530 |
| I-80 Kingery Eastbound | 109,178 | 172,931 | 201,138 | 230,579 | 251,202 | 252,639 | 254,536 | 253,809 |
| I-80 Kingery Westbound | 107,820 | 169,032 | 199,597 | 222,171 | 237,423 | 255,601 | 265,764 | 263,431 |
| US-41 North Lake Shore Drive Northbound | - | - | 496,177 | 463,216 | 442,956 | 416,728 | 447,919 | 481,178 |
| US-41 North Lake Shore Drive Southbound | - | - | 511,622 | 471,789 | 454,310 | 440,286 | 460,899 | 480,477 |
| US-41 South Lake Shore Drive Northbound | - | 207,629 | 246,955 | 199,325 | 234,280 | 254,613 | 231,530 | 246,013 |
| US-41 South Lake Shore Drive Southbound | - | 221,149 | 259,697 | 233,781 | 234,928 | 271,604 | 293,087 | 261,464 |
| I-90/94 Dan Ryan Local Eastbound | 757,120 | 910,099 | 949,004 | 1,008,842 | 966,469 | 972,976 | 994,206 | 968,311 |
| I-90/94 Dan Ryan Local Westbound | 758,054 | 1,061,048 | 842,611 | 906,608 | 1,001,771 | 984,093 | 1,020,496 | 996,109 |
| I-90/94 Dan Ryan Express Eastbound | 368,771 | 400,051 | 436,106 | 385,476 | 398,317 | 403,265 | 399,436 | 407,680 |
| I-90/94 Dan Ryan Express Westbound | 391,945 | 444,118 | 484,870 | 378,996 | 373,806 | 404,728 | 403,062 | 418,826 |
| I-55 Stevenson Northbound* | 1,121,651 | 1,485,483 | 1,717,359 | 2,087,048 | 2,138,169 | 2,066,856 | 2,079,796 | 2,924,991 |
| I-55 Stevenson Southbound* | 1,122,638 | 1,444,341 | 1,758,656 | 2,118,377 | 2,076,321 | 2,108,163 | 2,117,071 | 2,944,472 |
| Total Regional Expressway VMT | 15,573,856 | 20,431,161 | 23,337,367 | 24,857,475 | 25,114,097 | 25,255,879 | 25,522,745 | 27,134,311 |

* - Additional surveillance added in 2014 on I-55. The additional serveillance on I-55 was in the southern part of the CMAP region, from IL-53 to IL-113/Coal City Rd. This added an additional 30 centerline miles of surveillance and roughly 1,648,649 VMT to the regional total.

# IDOT Average Daily Expressway Vehicle Miles Traveled (VMT)
# 1984, 1990, 2000 & 2010-2014

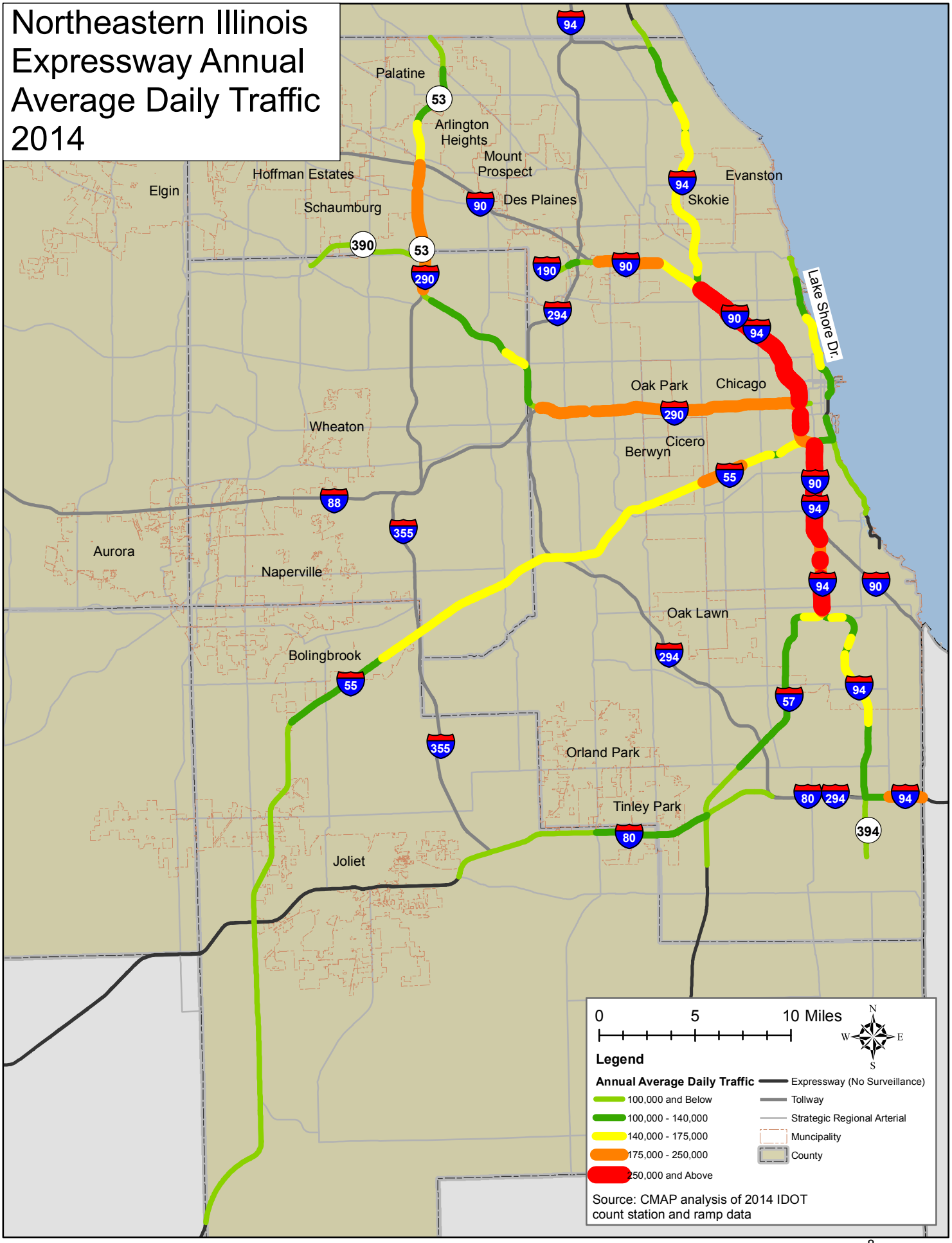


# IDOT Average Daily Expressway Vehicle Miles Traveled (VMT)
# 1984, 1990, 2000 & 2010-2014




* - Additional surveillance added in 2014 on I-55. The additional serveillance on I-55 was in the southern part of the CMAP region, from IL-53 to IL-113/Coal City Rd. This added an additional 30 centerline miles of surveillance and 1,648,649 VMT to the regional total.

# Northeastern Illinois Expressway Annual Average Daily Traffic 2014



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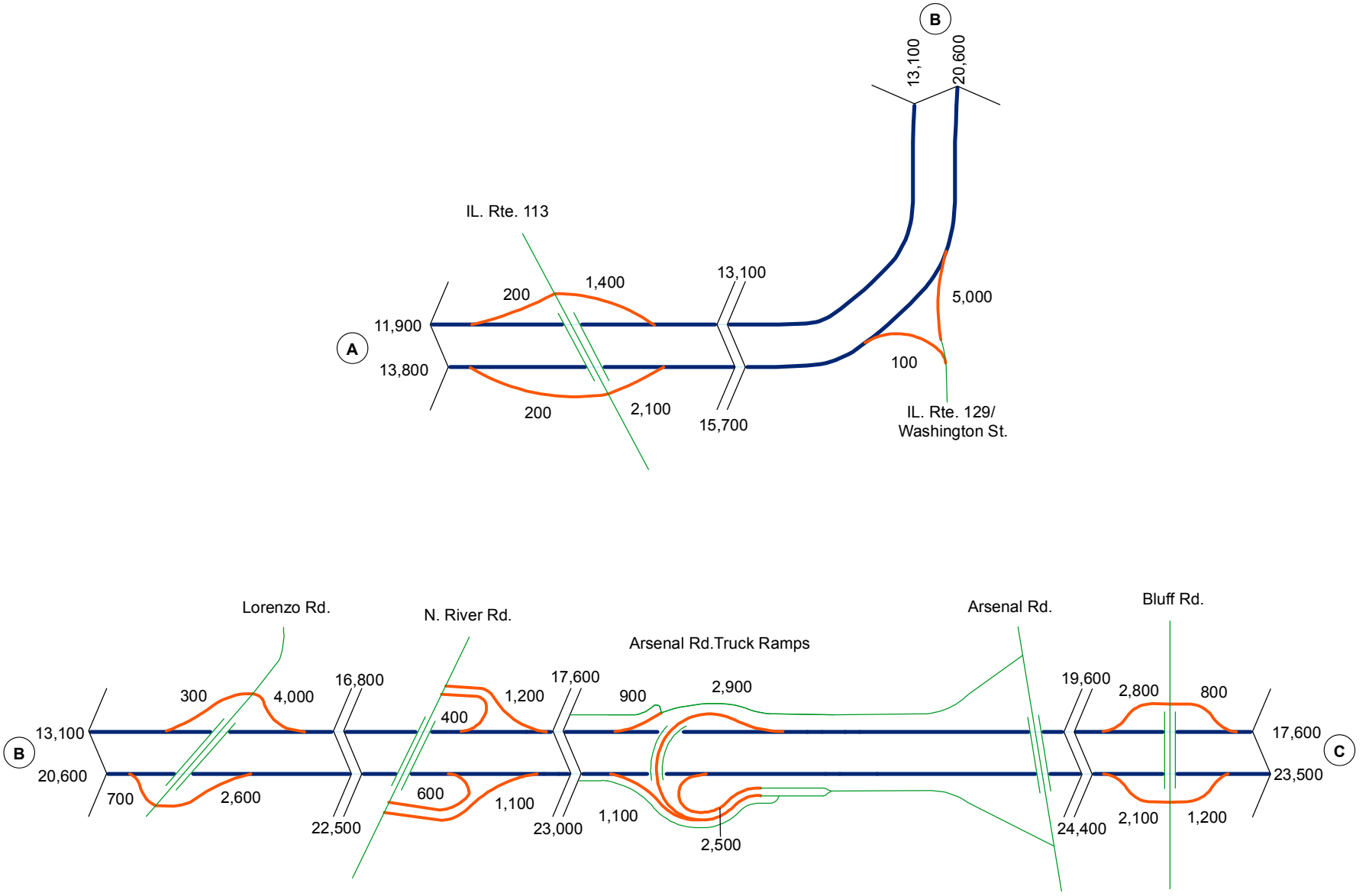
# 2014 Expressway Atlas

## Part 2: Traffic flow graphics by expressway segment

**FLOW MAP INDEX**


| FACILITY | DESIGNATION(S) | FROM | TO | PAGE(S) |
|---|---|---|---|---|
| Stevenson Expressway | I-55 | Illinois Route 113 | U.S. Route 41/Lake Shore Drive | 8 - 12 |
| I-57 Expressway | I-57 | Peotone Road | I-94 Dan Ryan Expressway | 13 - 14 |
| I-80 Expressway | I-80 | Richards Road | I-294 Tri-State Tollway | 15 |
| Kingery Expressway | I-80 & I-94 | I-94 Bishop Ford Freeway | Indiana State Line | 16 |
| Dan Ryan Expressway | I-90 & I-94 | I-290 Eisenhower Expressway | I-57 Expressway/I-94 Bishop Ford Freeway | 17 - 20 |
| Kennedy Expressway | I-90 & I-94 & I-190 | Bessie Coleman Drive | I-290 Eisenhower Expressway | 21 - 26 |
| Bishop Ford Freeway | I-94 & Illinois Route 394 | Illinois Route 394 | I-94 Dan Ryan Expressway | 27 - 28 |
| Edens Expressway | I-94 | Clavey Road | I-90 Kennedy Expressway | 29 - 30 |
| Eisenhower Expressway | I-290 | Wolf Road | Wacker Dr./Franklin St. | 31 - 35 |
| I-290 Extension | I-290 & Illinois Route 53 | I-90 Jane Addams Tollway | I-290 Eisenhower Expressway | 36 - 38 |
| Elgin O'Hare | Illinois Route 390 | U.S. Route 20/Lake Street | I-290 Extension/Thorndale Avenue | 39 - 40 |
| Illinois Route 53 | Illinois Route 53 | Lake-Cook Road | Illinois Route 62/Algonquin Road | 41 |
| North Lake Shore Drive | U.S. Route 41 | Hollywood Avenue | Balbo Drive | 42 - 43 |
| South Lake Shore Drive | U.S. Route 41 | Roosevelt Road | Jefferey Boulevard | 44 - 45 |




2014 Annual Average Daily Traffic

I-55/Stevenson Expressway, from IL. Rte. 113 To Bluff Rd.



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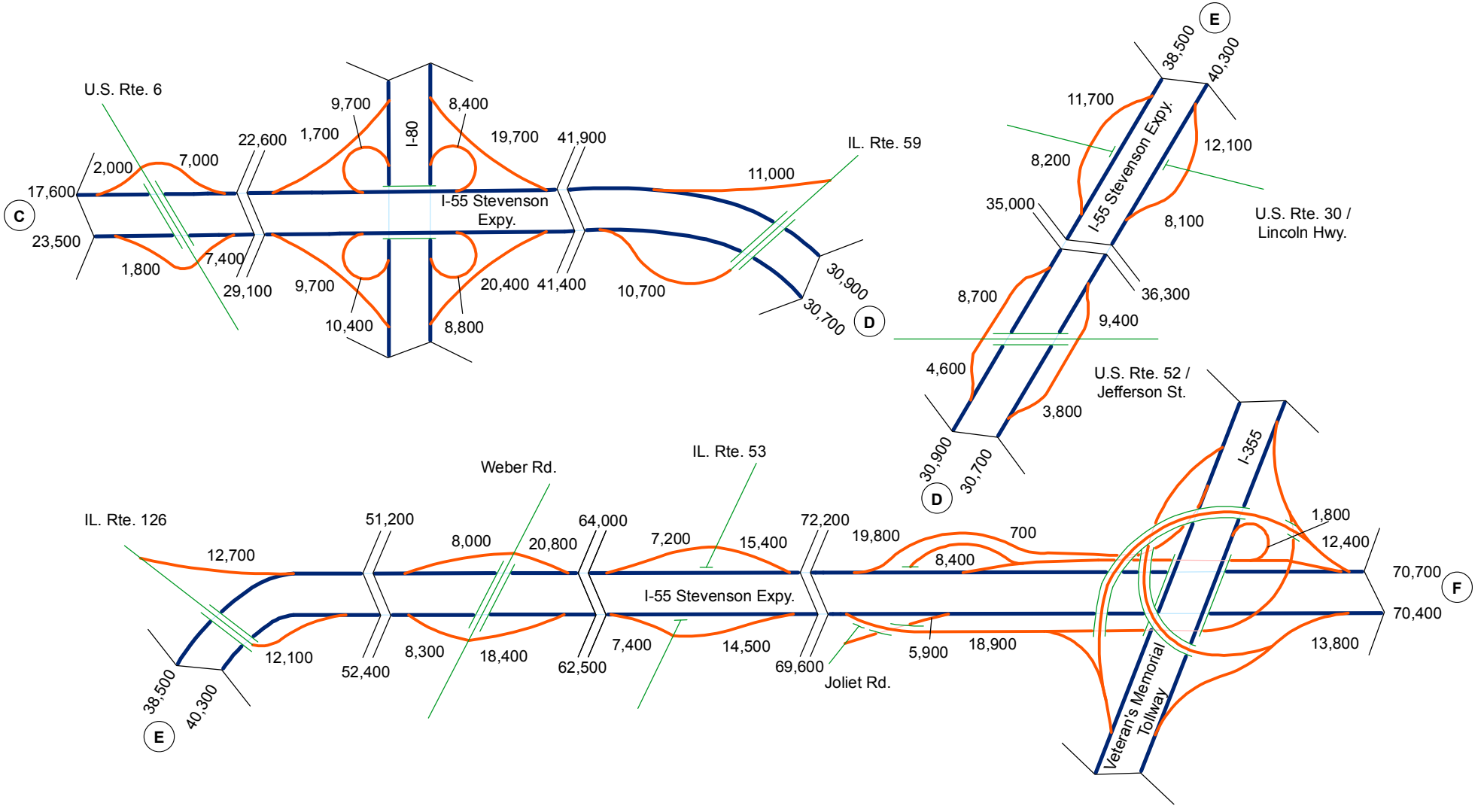


2014 Annual Average Daily Traffic

I-55 Stevenson Expressway, from U.S. Rte. 6 to I-355 Veteran's Memorial Toll.



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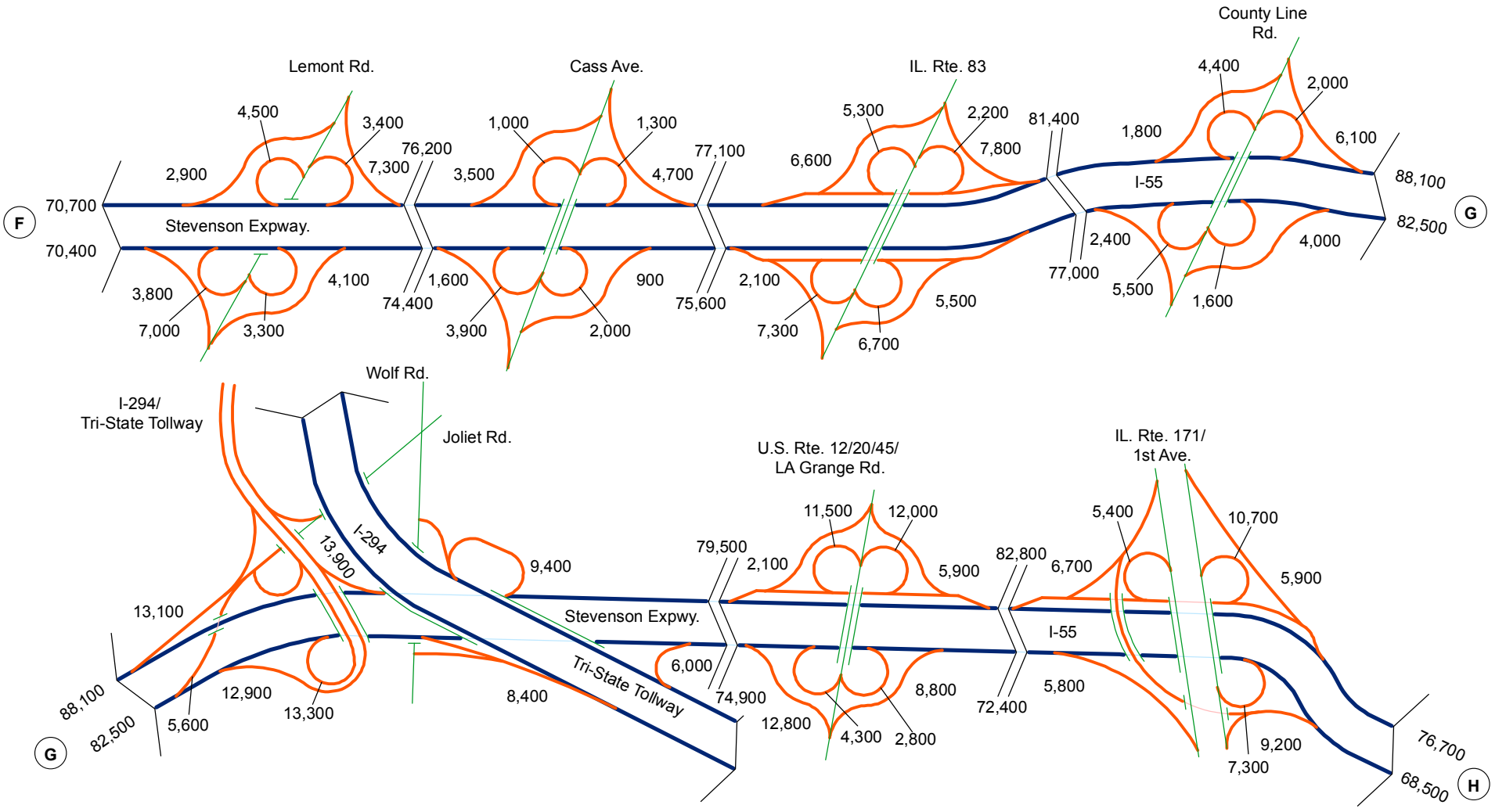


2014 Annual Average Daily Traffic

I-55 Stevenson Expressway, from Lemont Rd. to IL. Rte. 171/1st Ave.



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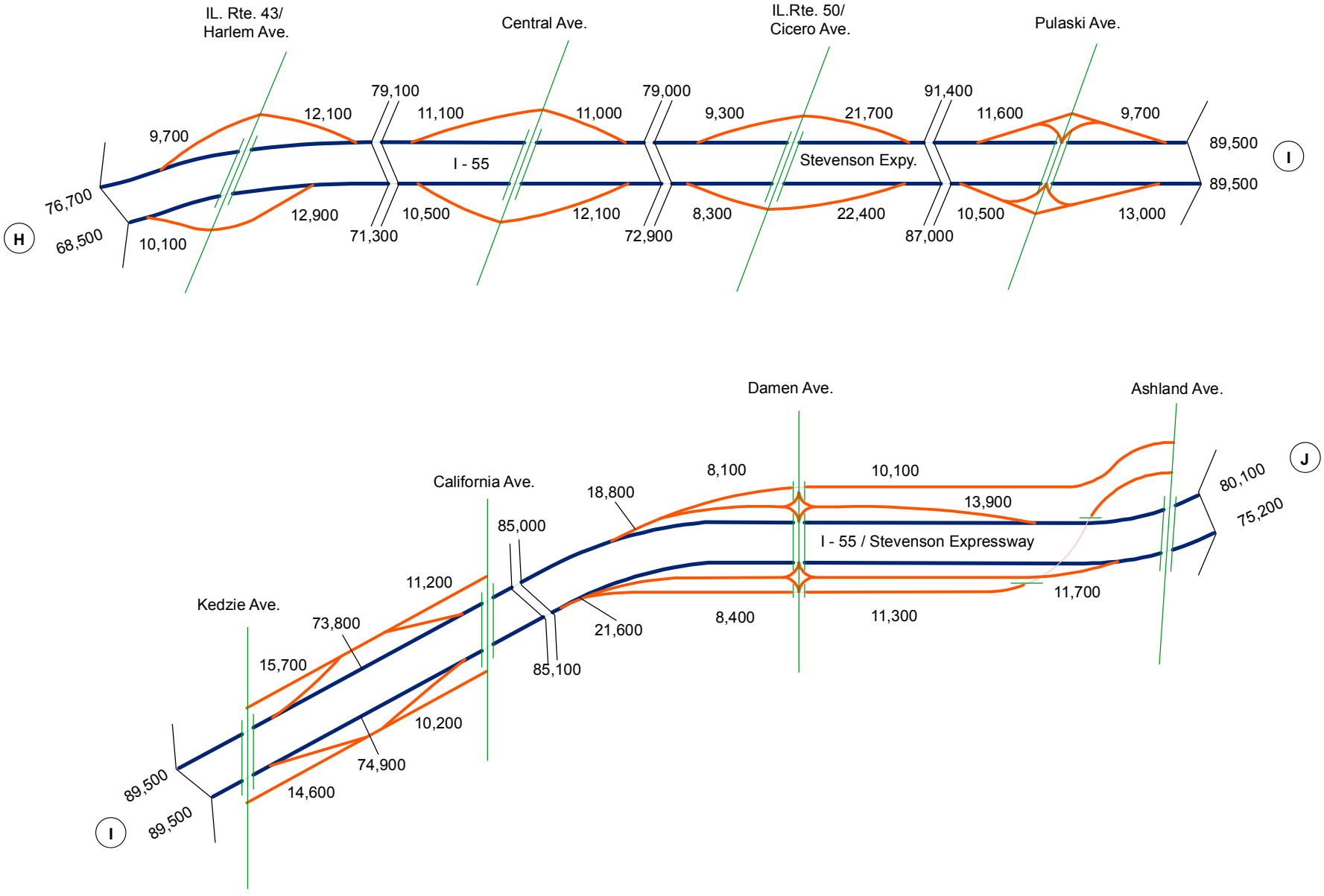


2014 Annual Average Daily Traffic

I-55 Stevenson Expressway, from IL. Rte. 43/Harlem Ave. to Ashland Ave.



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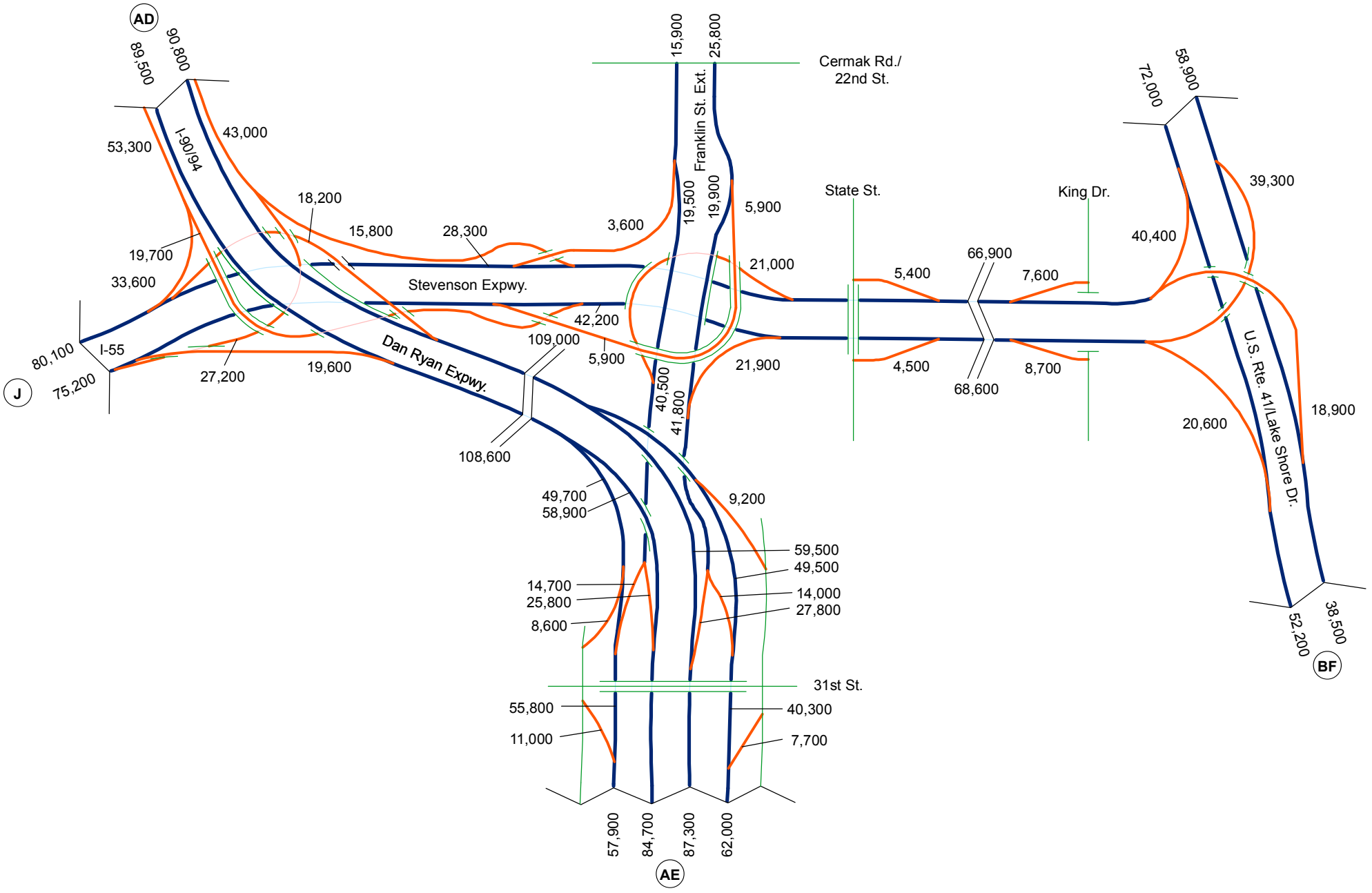


2014 Annual Average Daily Traffic

I-90/94 Dan Ryan Expressway, from I-55 Stevenson Exprwy. to 31st St./Franklin St. Ext.



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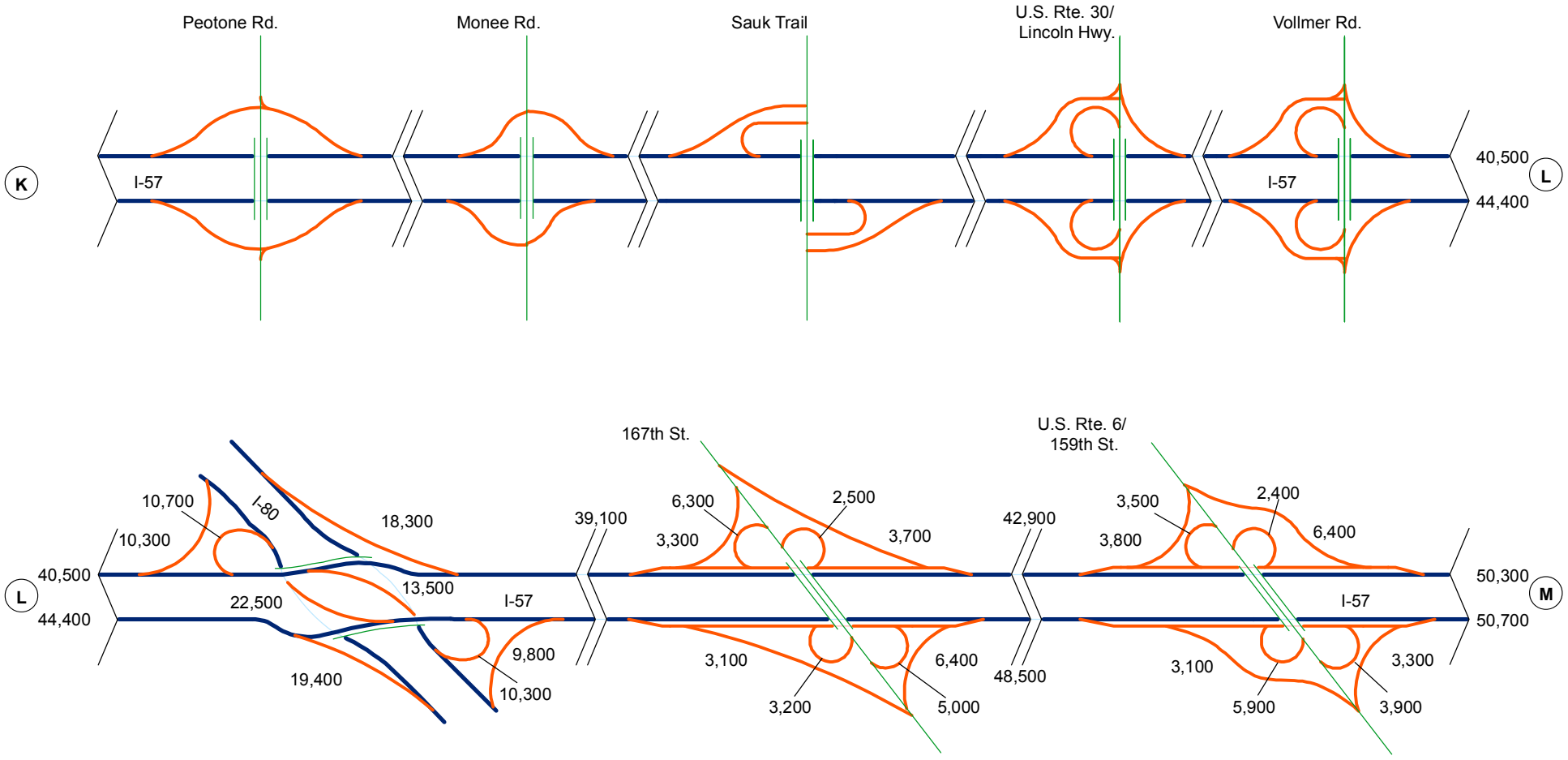


2014 Annual Average Daily Traffic

I-57 Expressway, from Peotone Rd. to U.S. Rte. 6/159th St.



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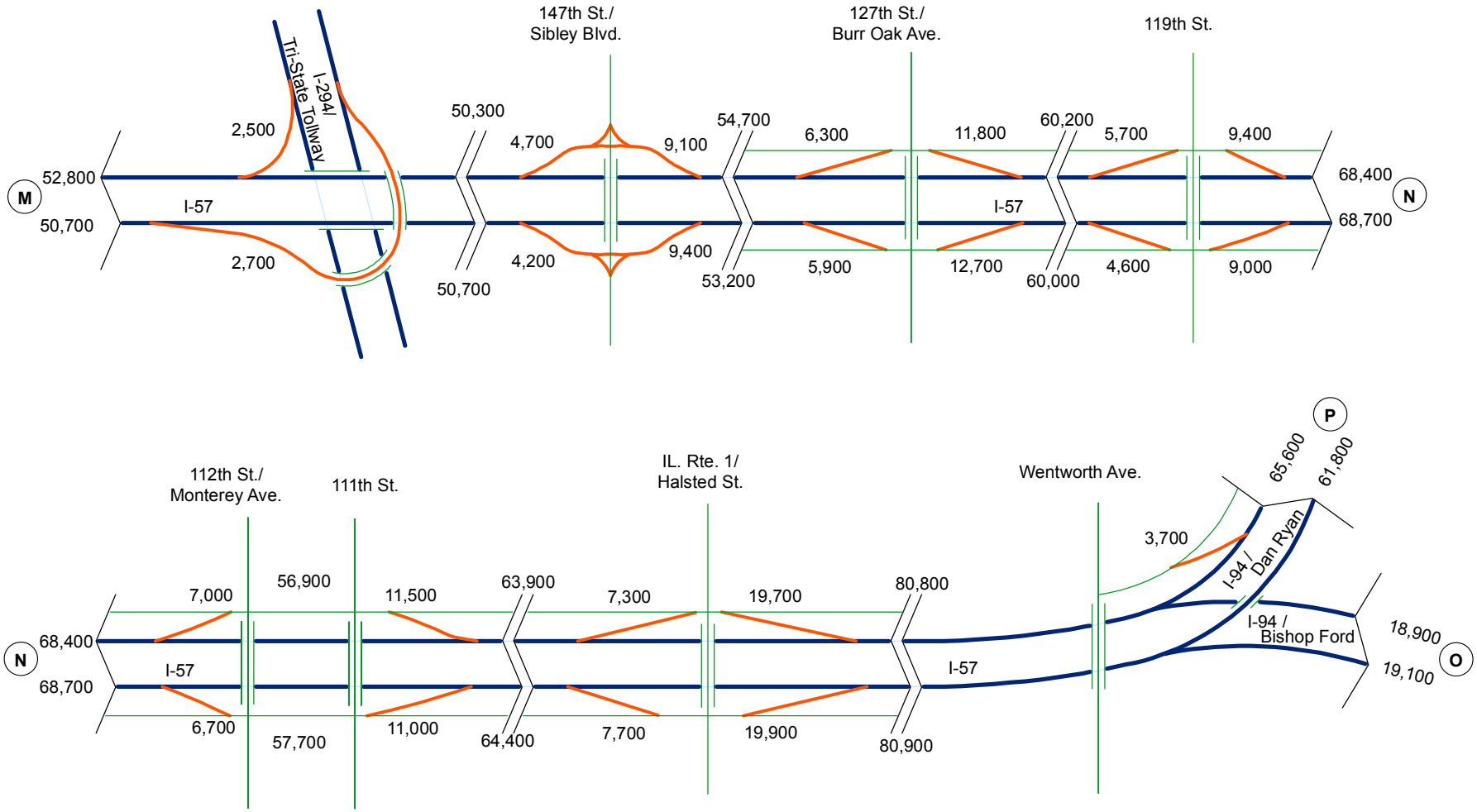


2014 Annual Average Daily Traffic

I-57 Expressway, from I-294/Tri-State Tollway to I-94 Dan Ryan Expwy./Bishop Ford Frwy.



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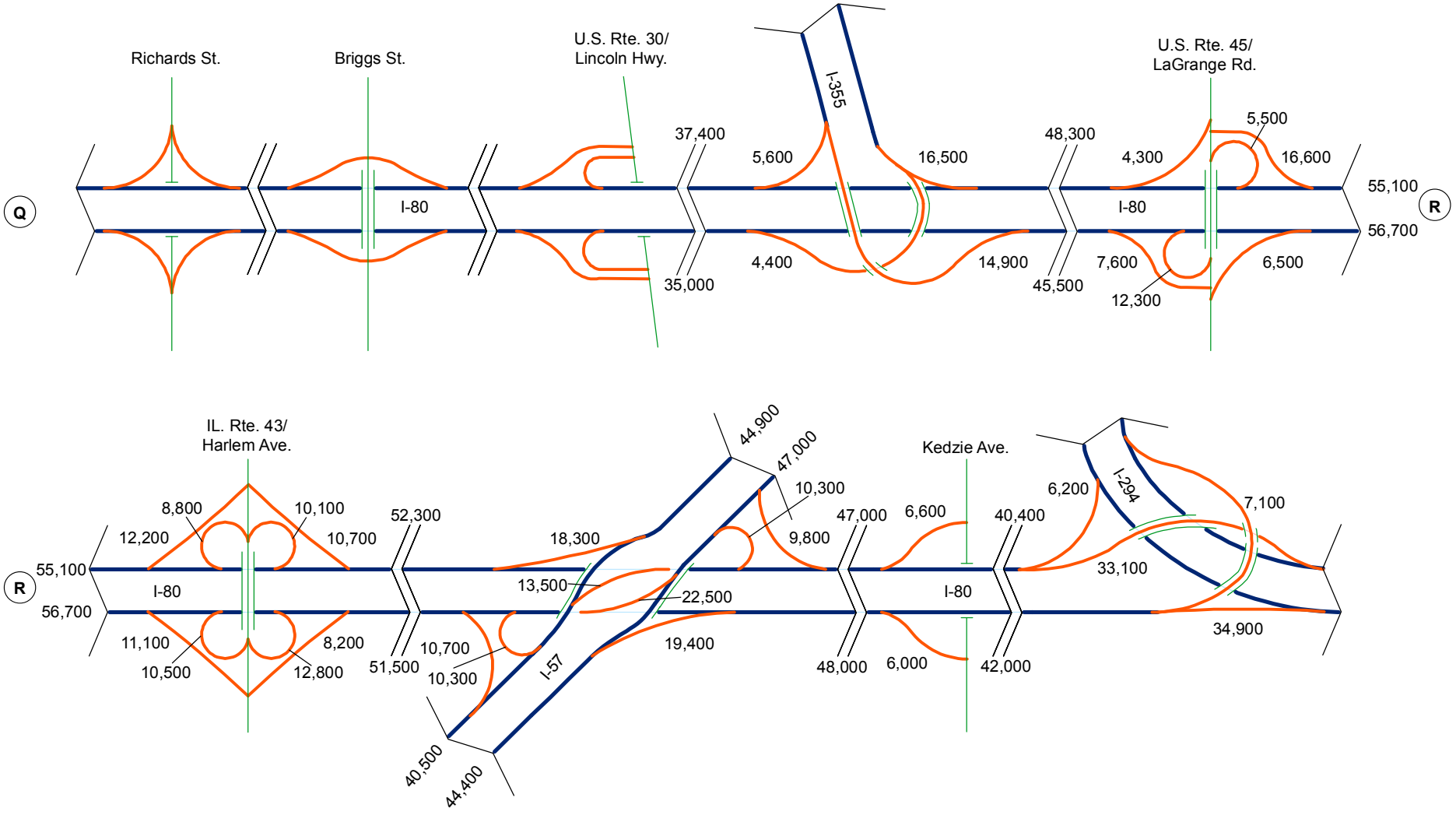


2014 Annual Average Daily Traffic

I-80 Expressway, from Richards St. to I-294 Tri-State Toll.



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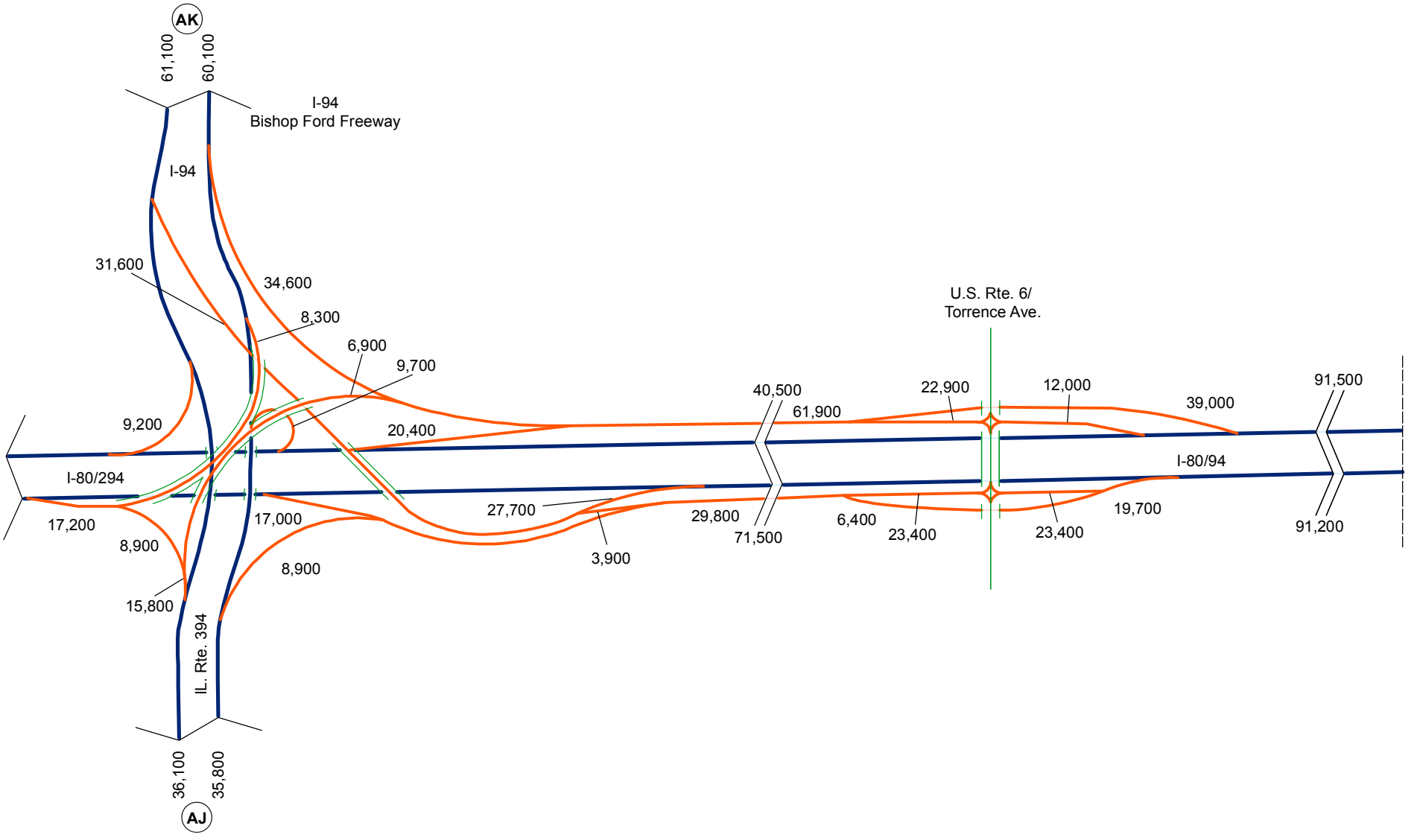


2014 Annual Average Daily Traffic

I-80/94 Kingery Expressway, from I-94 Bishop Ford Frwy. to Indiana state line



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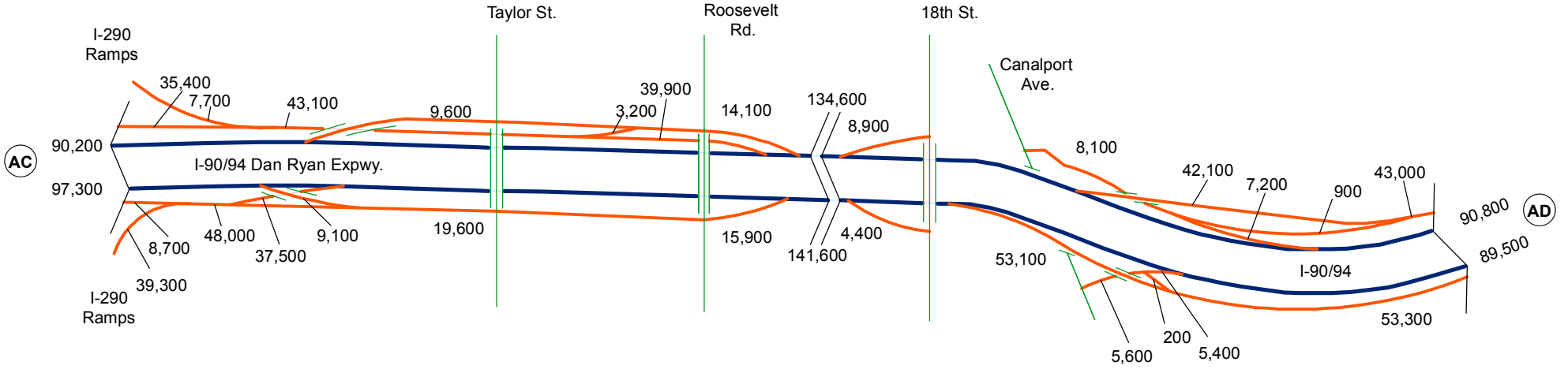


2014 Annual Average Daily Traffic

I-90/94 Dan Ryan Expressway, from I-290 Eisenhower Expwy. to Canalport Ave.



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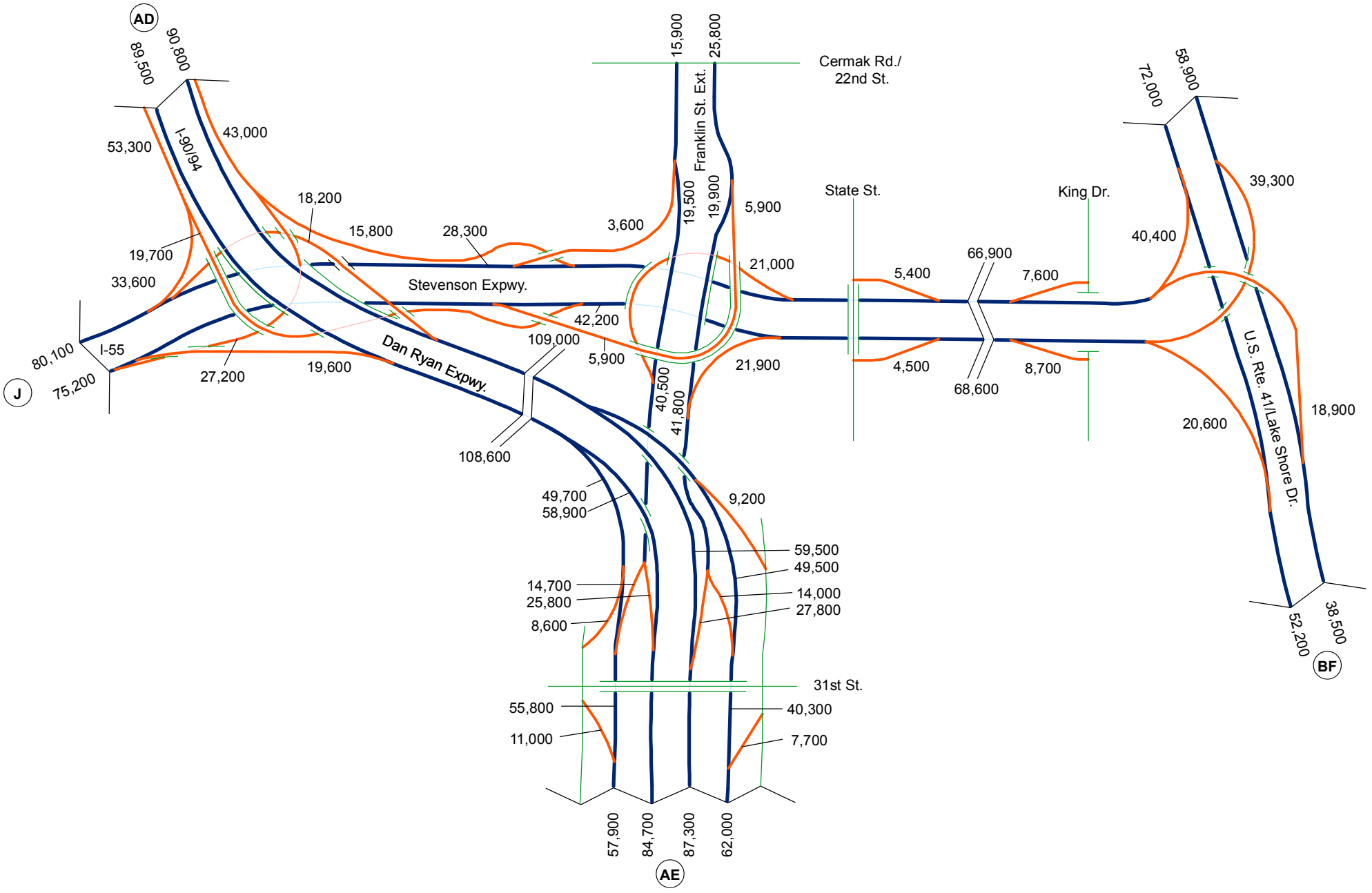


2014 Annual Average Daily Traffic

I-90/94 Dan Ryan Expressway, from I-55 Stevenson Exprwy. to 31st St./Franklin St. Ext.



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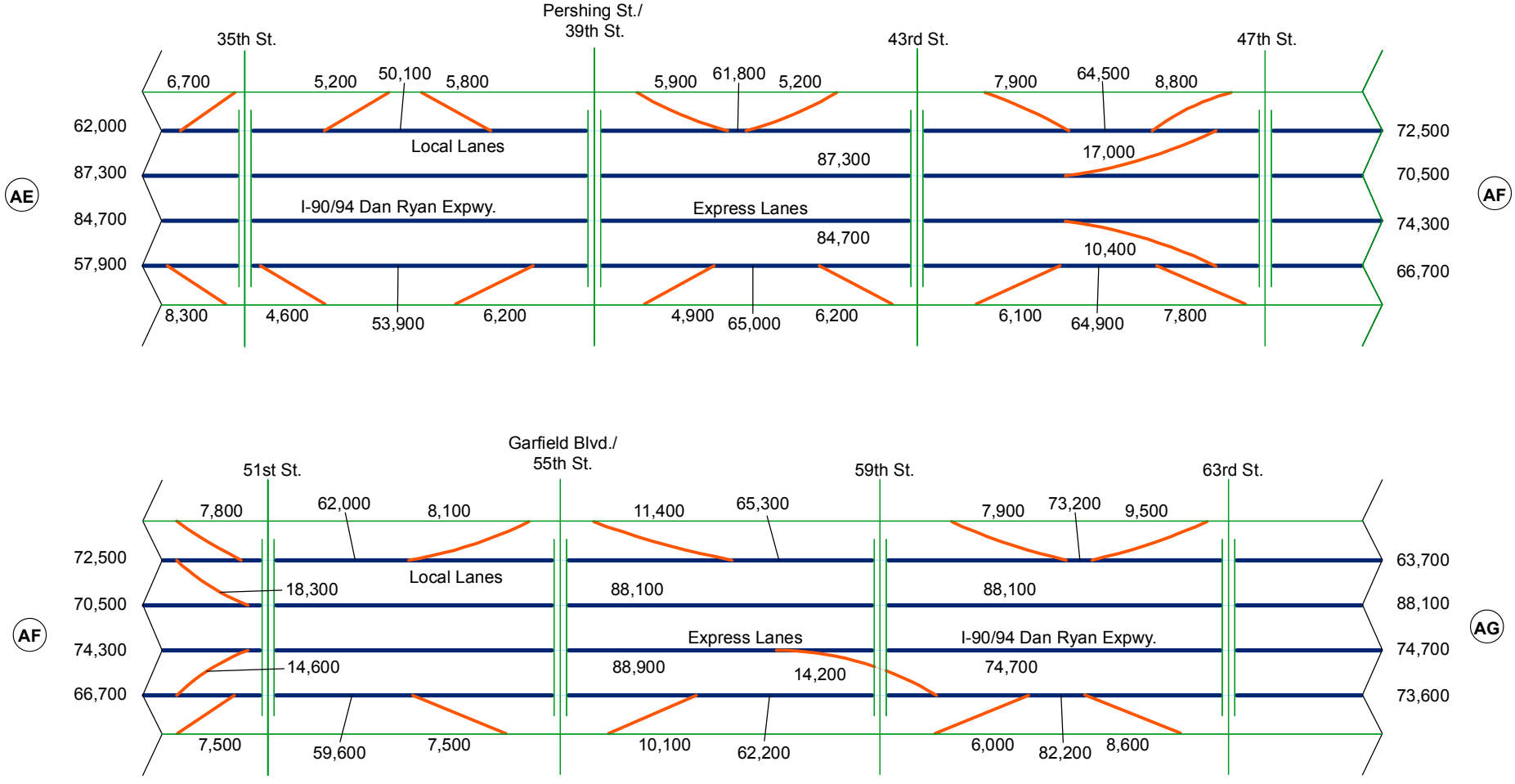


2014 Annual Average Daily Traffic

I-90/94 Dan Ryan Expressway, from 35th. St. to 63rd. St.



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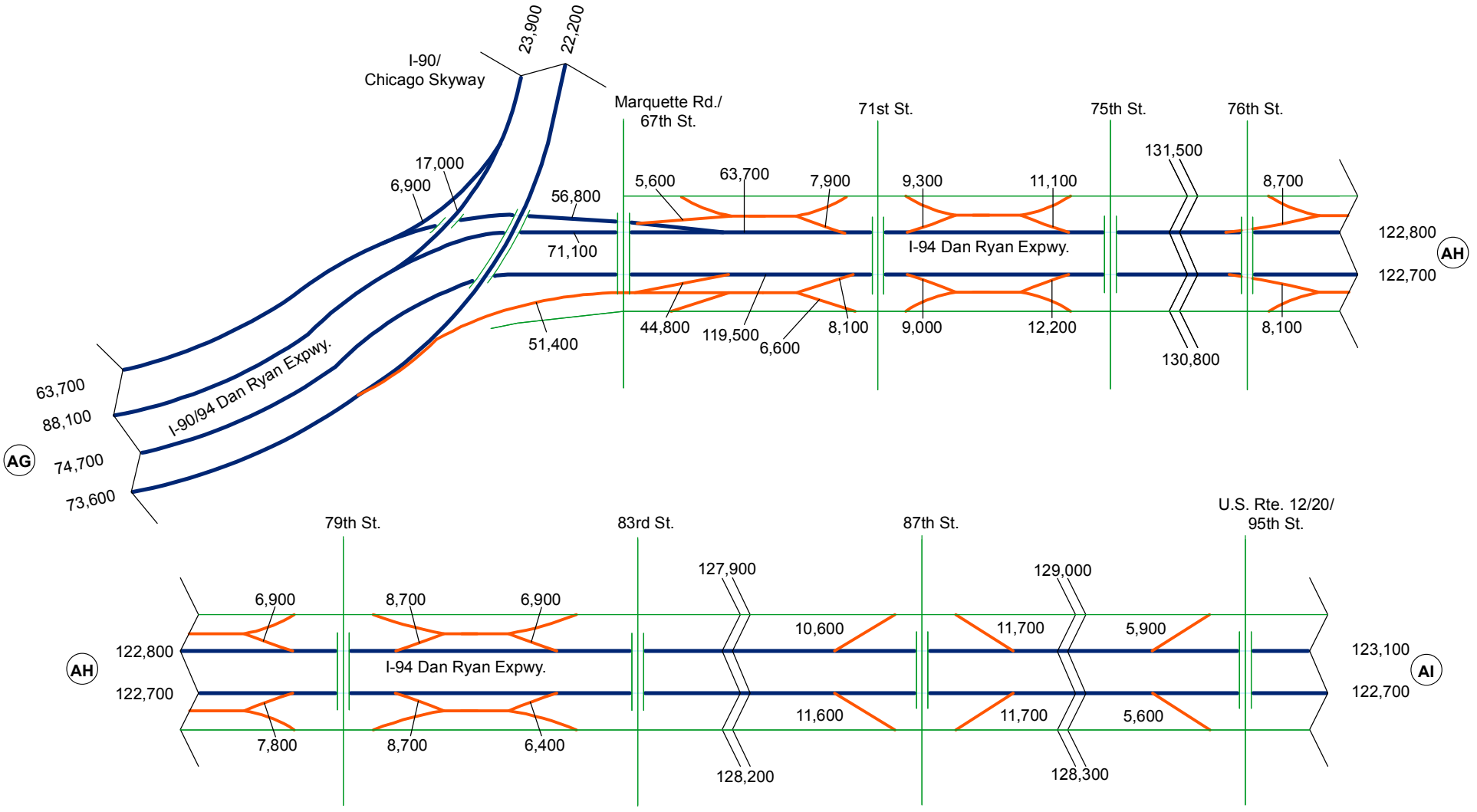


2014 Annual Average Daily Traffic

I-94 Dan Ryan Expressway, from I-90 Chicago Skyway to U.S. Rte. 12/20/95th St.



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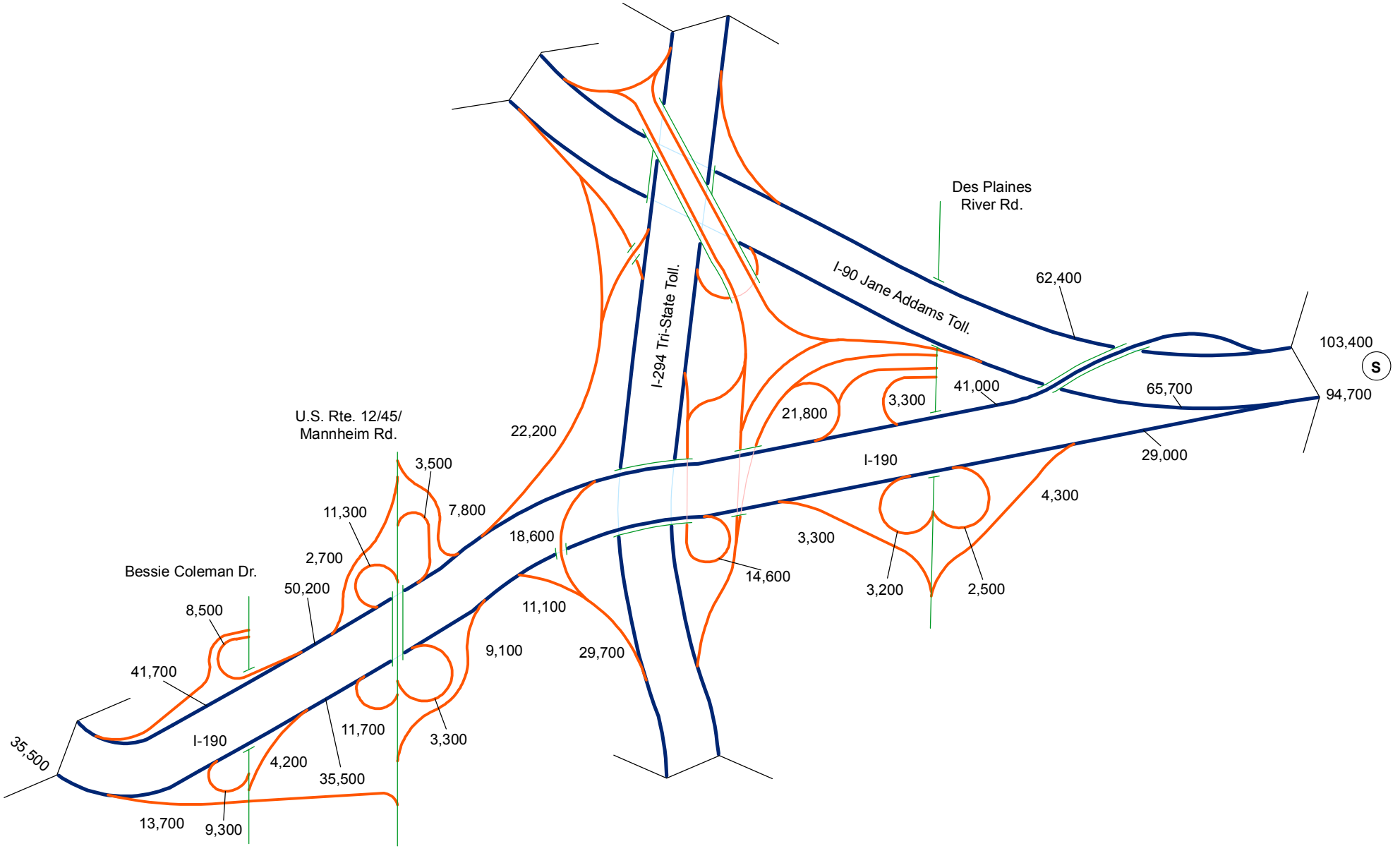


2014 Annual Average Daily Traffic

I-190 Kennedy Expressway, from Bessie Coleman Dr. to I-90 Jane Addams Toll.



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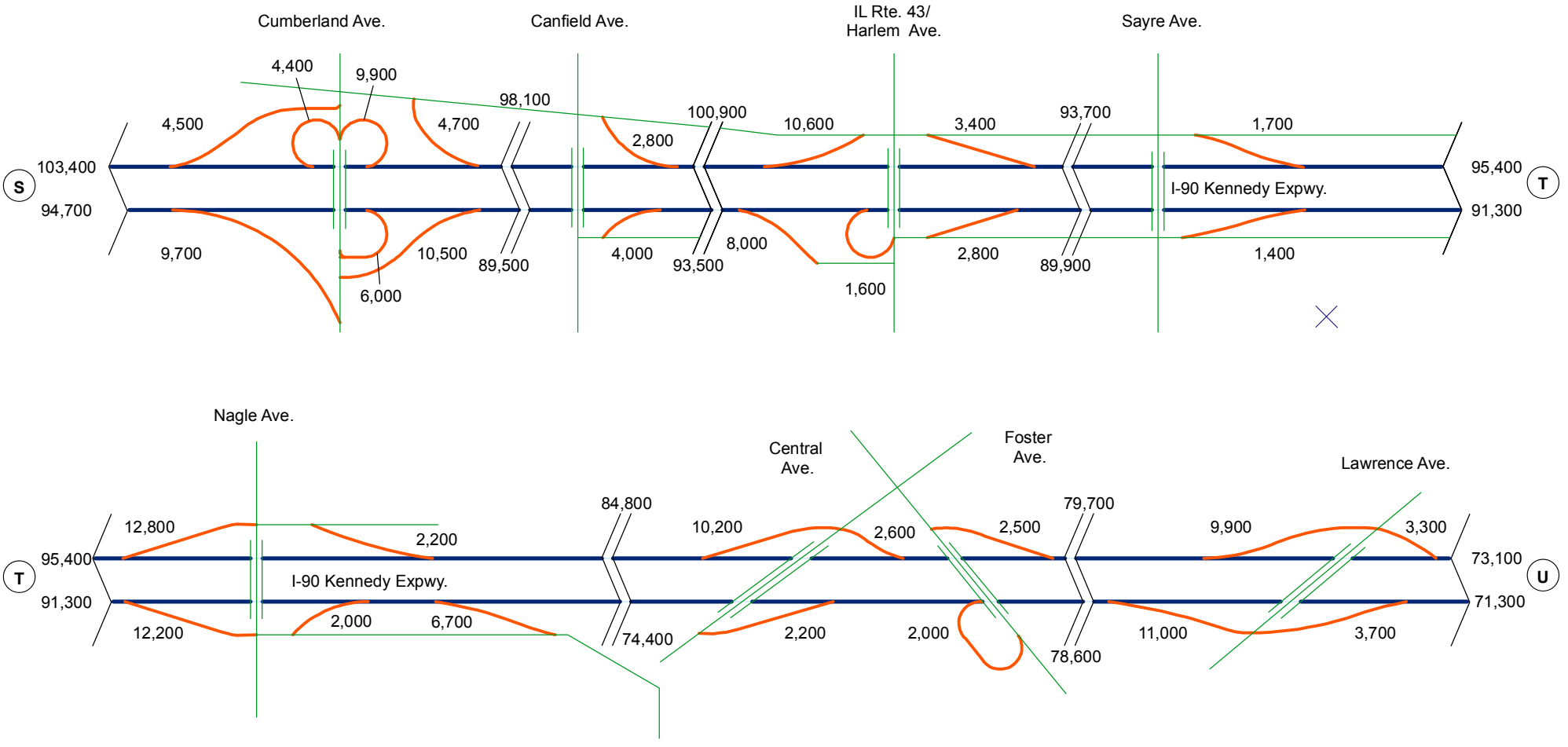


2014 Annual Average Daily Traffic

I-90 Kennedy Expressway, from Cumberland Ave. to Lawrence Ave.



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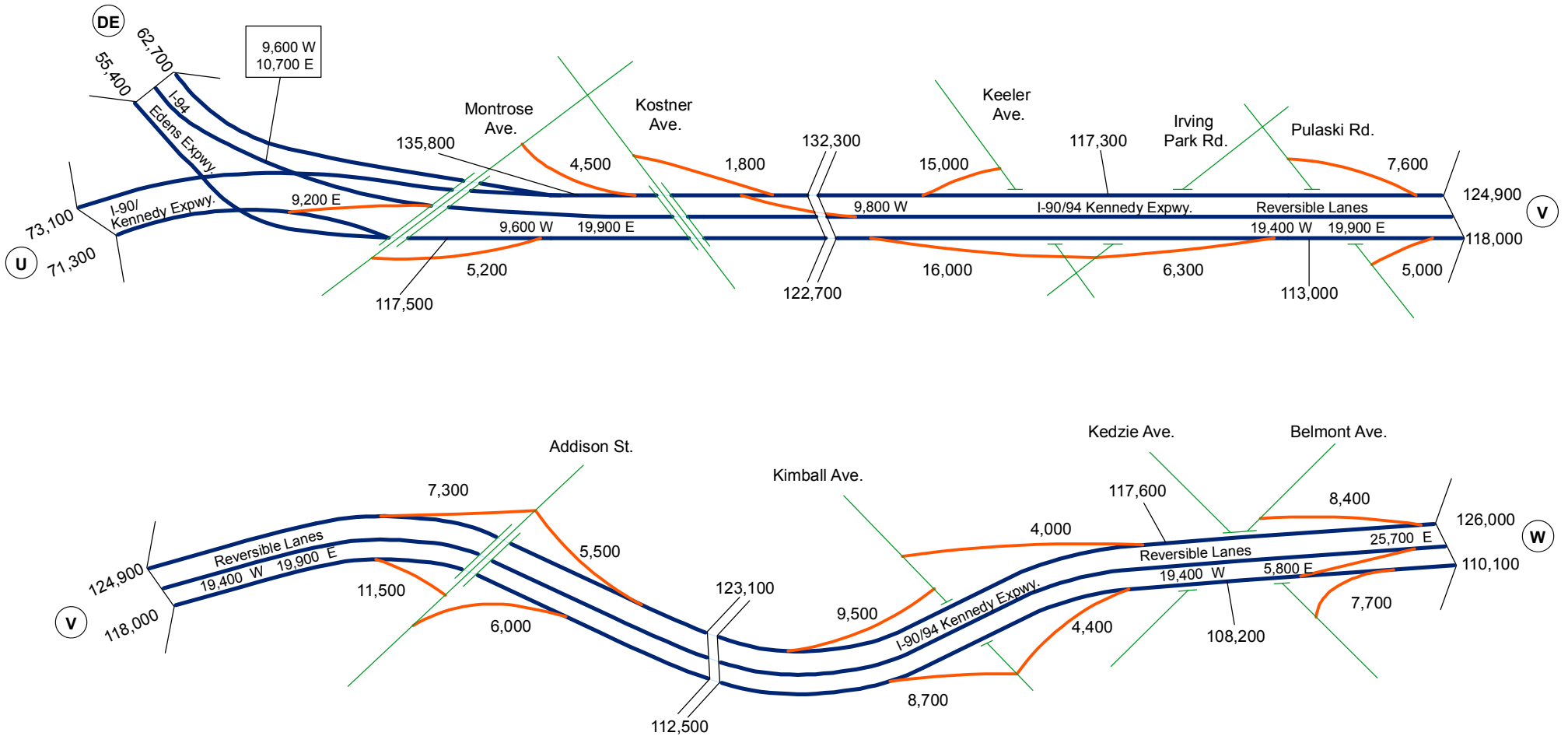


2014 Annual Average Daily Traffic

I-90/94 Kennedy Expressway, from I-94 Edens Expwy. to Belmont Ave. and Kedzie Ave.



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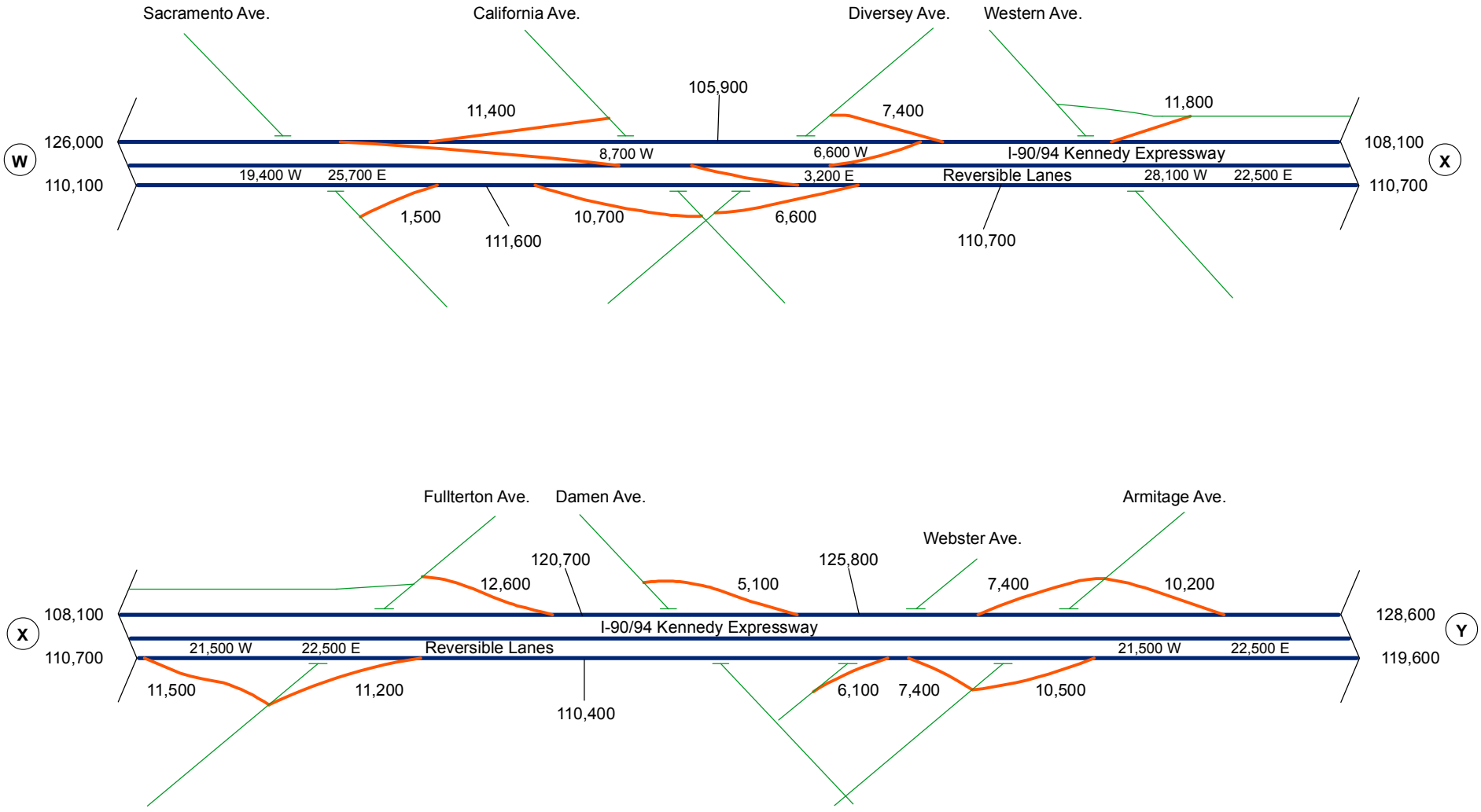


2014 Annual Average Daily Traffic

I-90/94 Kennedy Expressway, from Sacramento Ave. to Armitage Ave.



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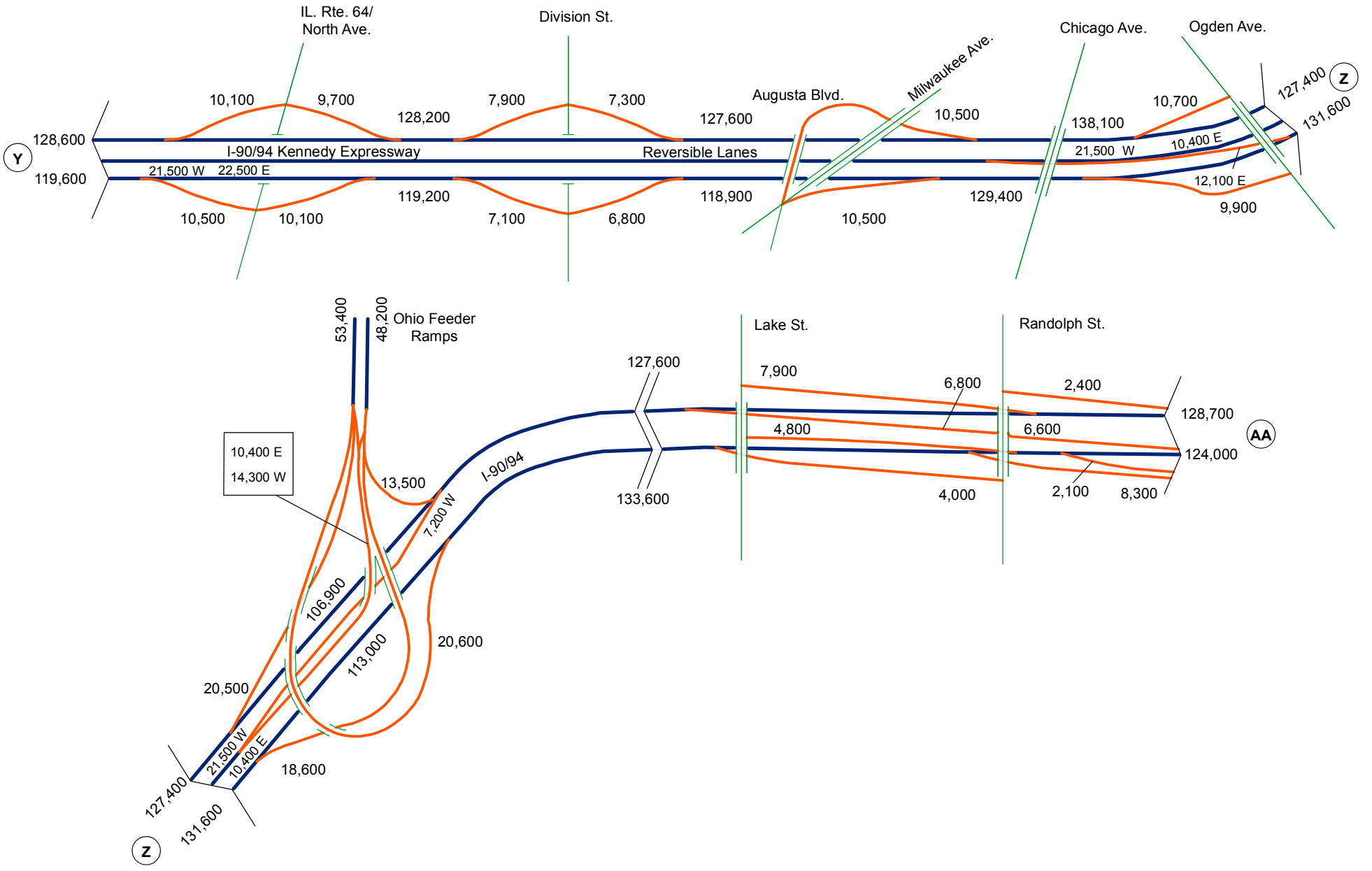


2014 Annual Average Daily Traffic

I-90/94 Kennedy Expressway, from IL. Rte. 64/North Ave. to Randolph St.



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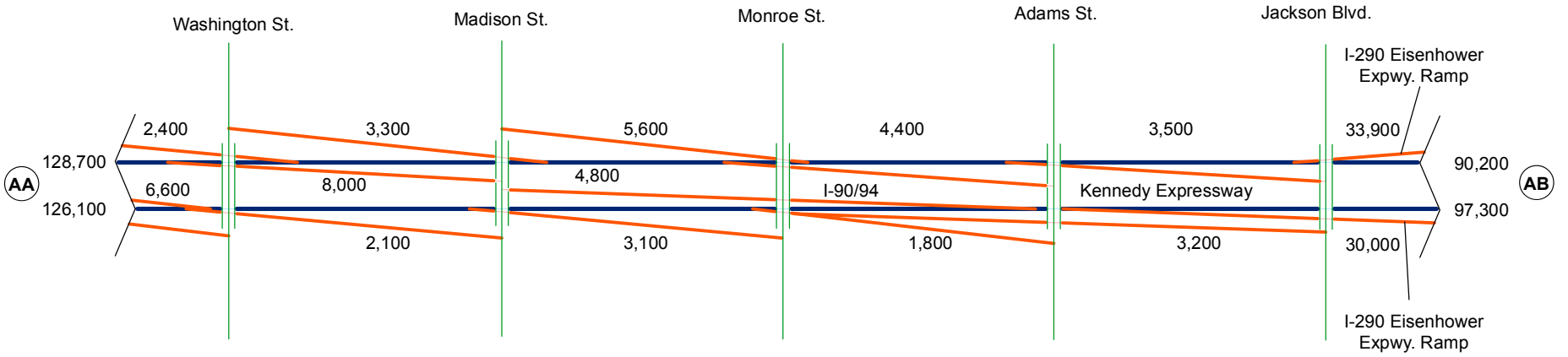
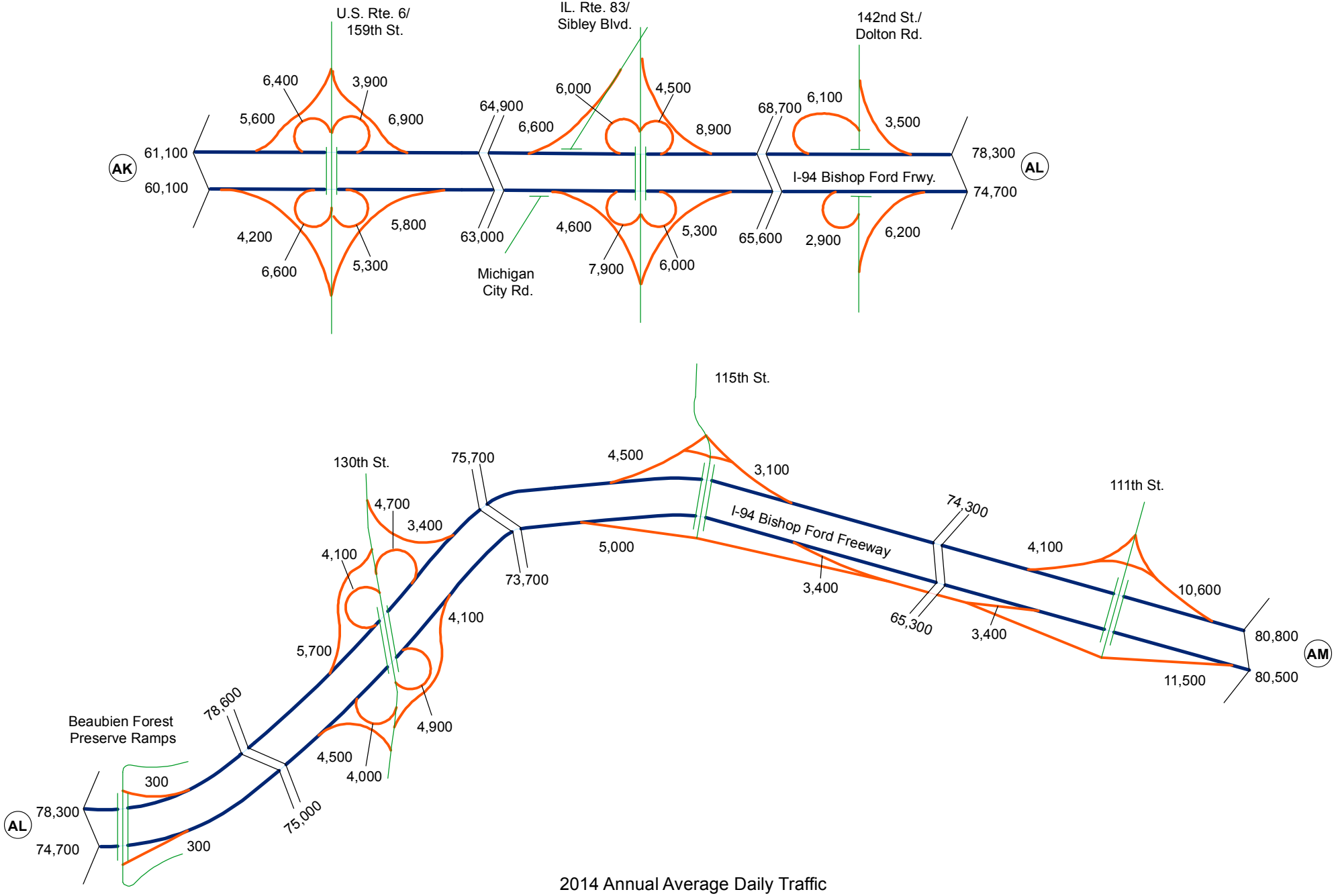



2014 Annual Average Daily Traffic

I-90/94 Kennedy Expressway, from Washington St. to Jackson Blvd.




2014 Annual Average Daily Traffic

I-94 Bishop Ford Freeway, from U.S. Rte. 6/159th St. to 111th St.



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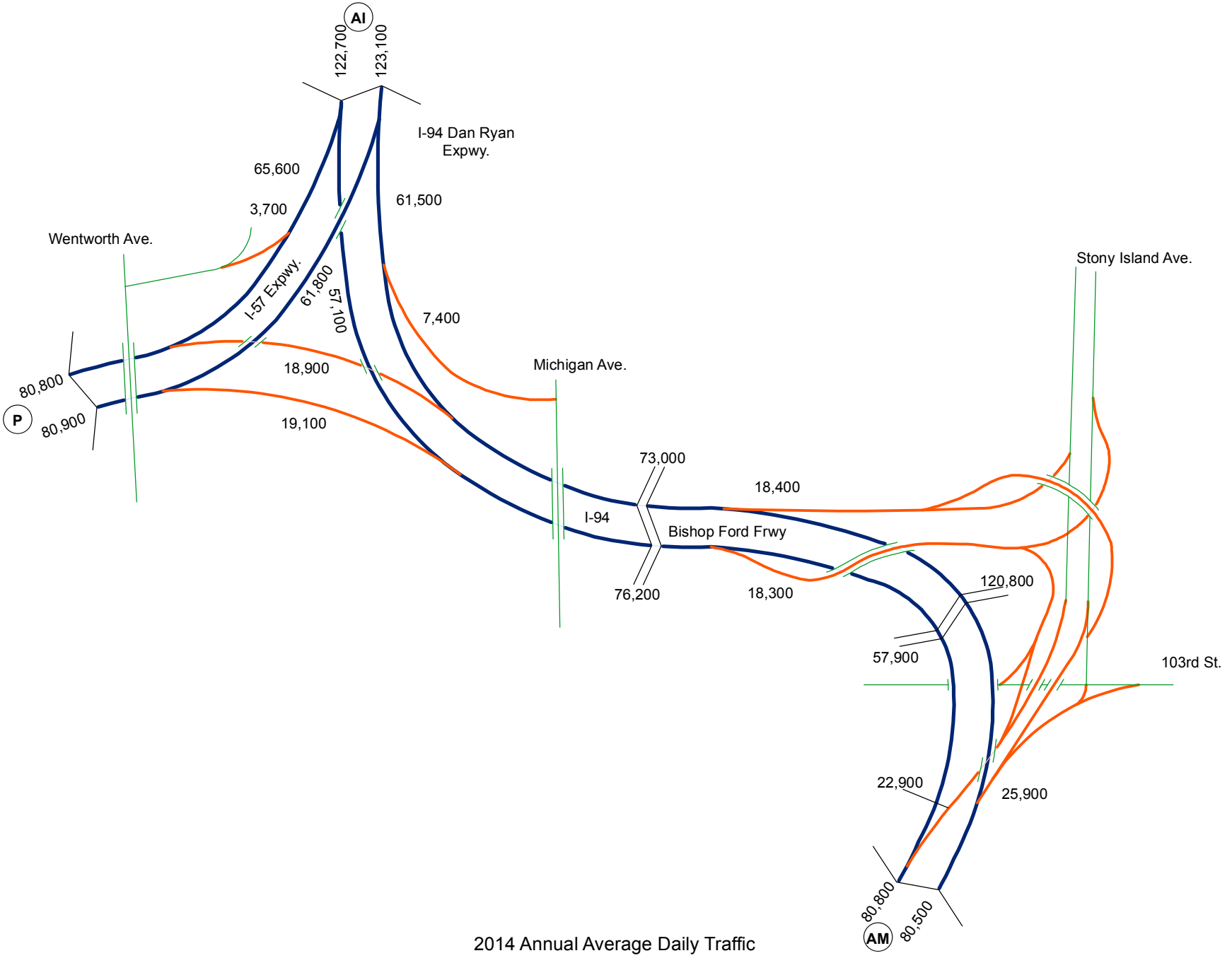


2014 Annual Average Daily Traffic

I-94 Bishop Ford Freeway, from 103rd St. to I-94 Dan Ryan and I-57 Expwys.



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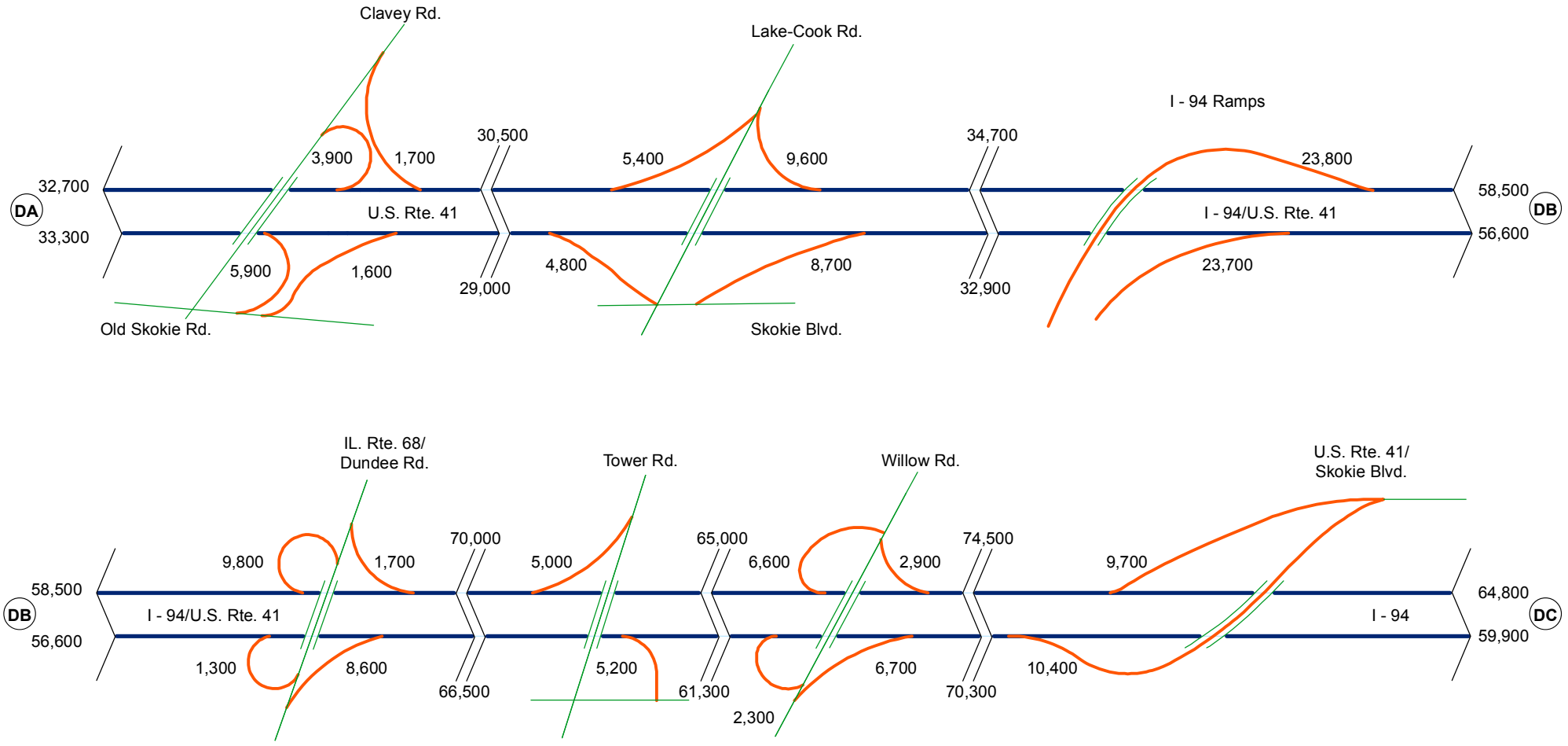


2014 Annual Average Daily Traffic

I-94 Edens Expressway, from Clavey Rd. to U.S. Rte. 41/Skokie Blvd.



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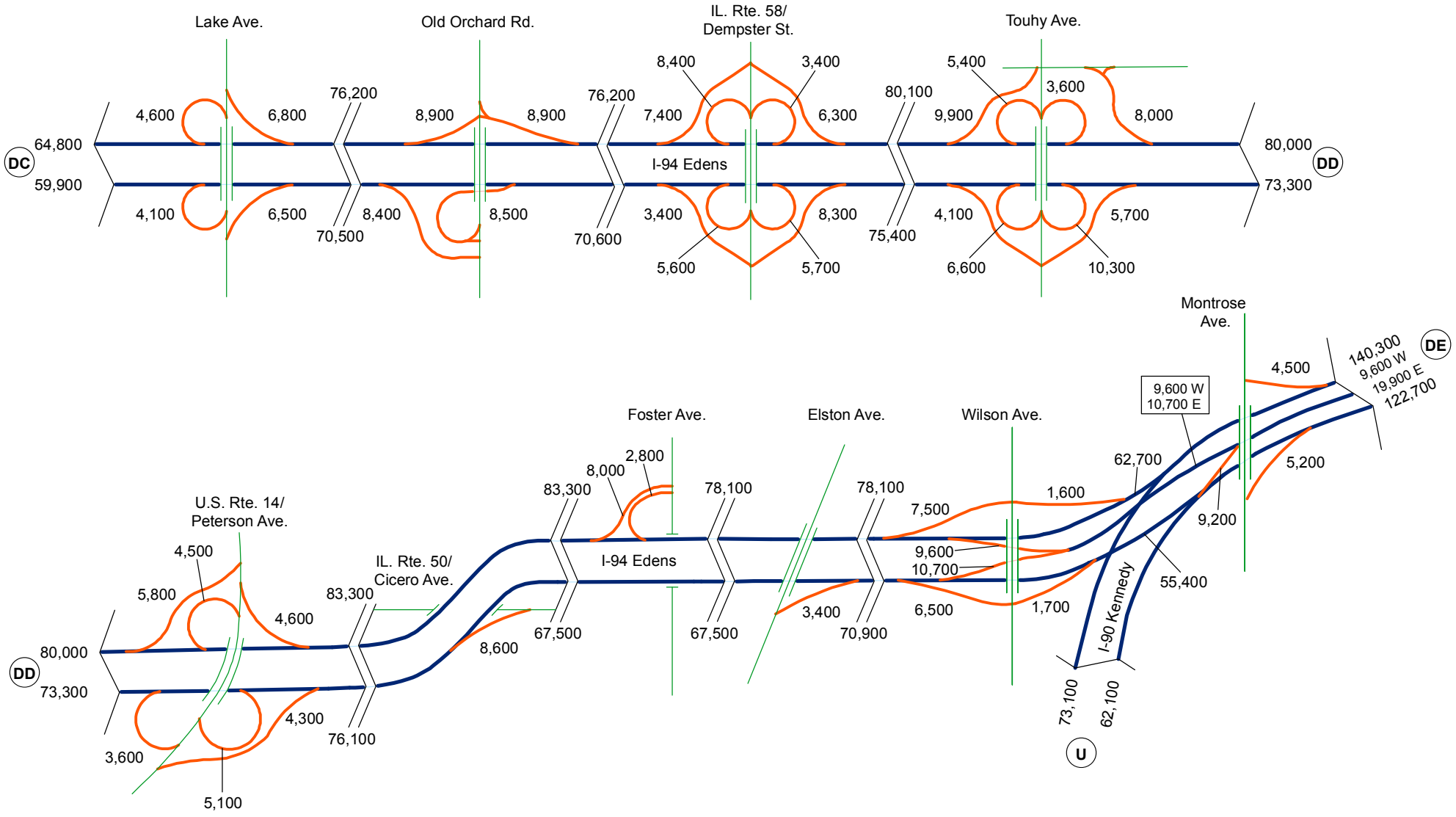


2014 Annual Average Daily Traffic

I-94 Edens Expressway, from Lake Ave. to I-90/Kennedy Expressway



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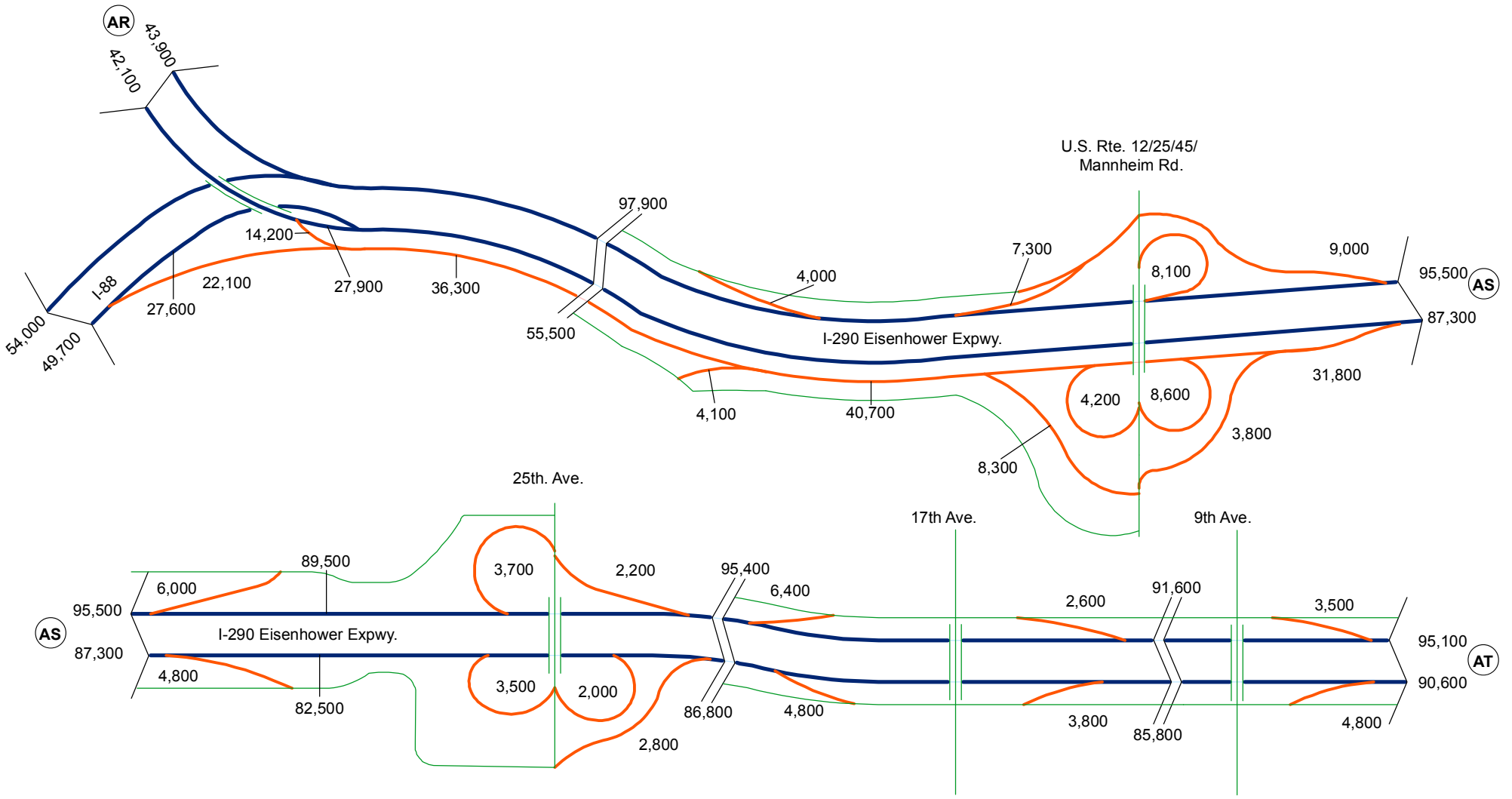
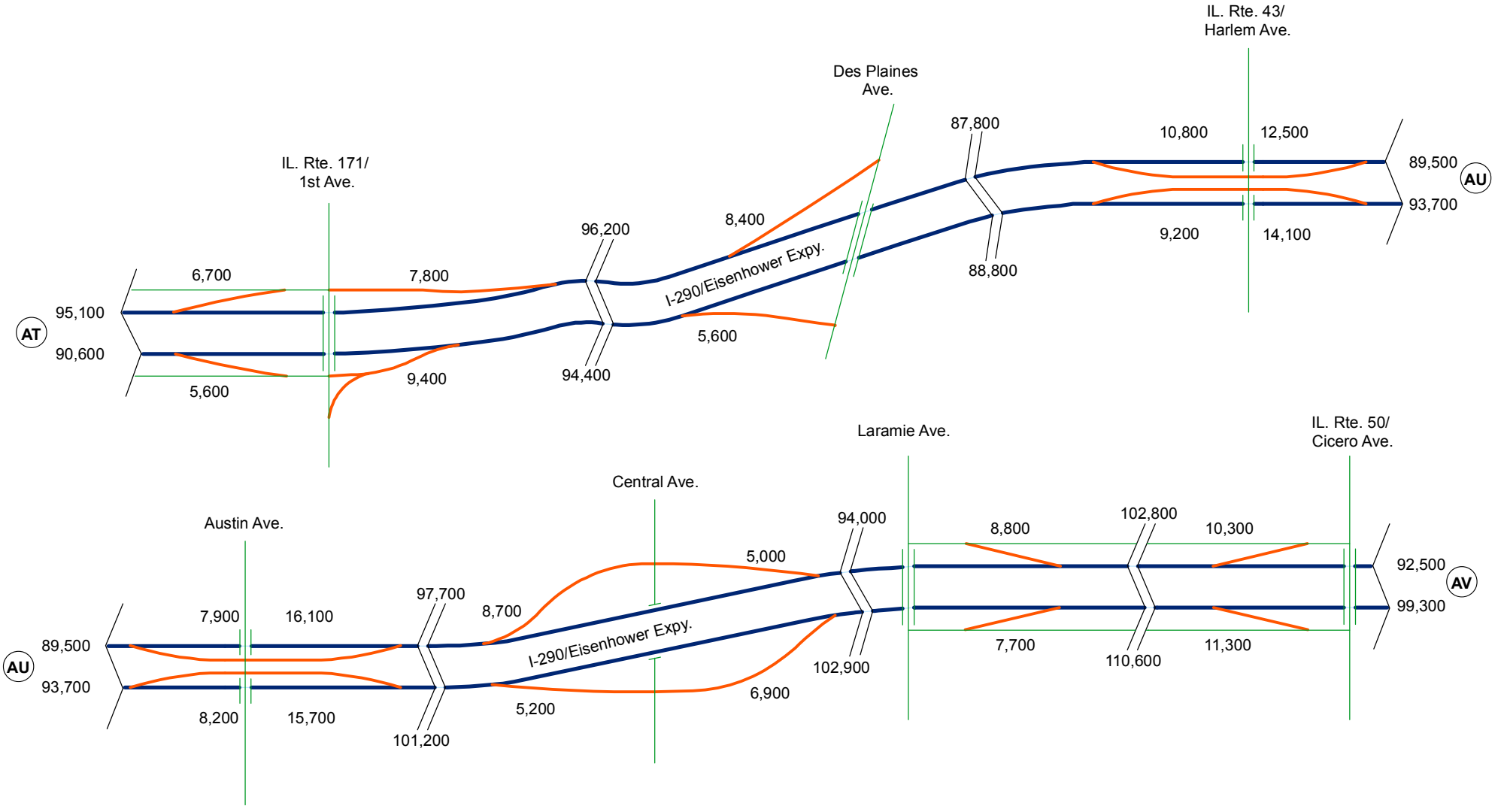



2014 Annual Average Daily Traffic

I-290 Eisenhower Expressway, from Wolf Rd. to 9th Ave.



Chicago Metropolitan
Agency for Planning

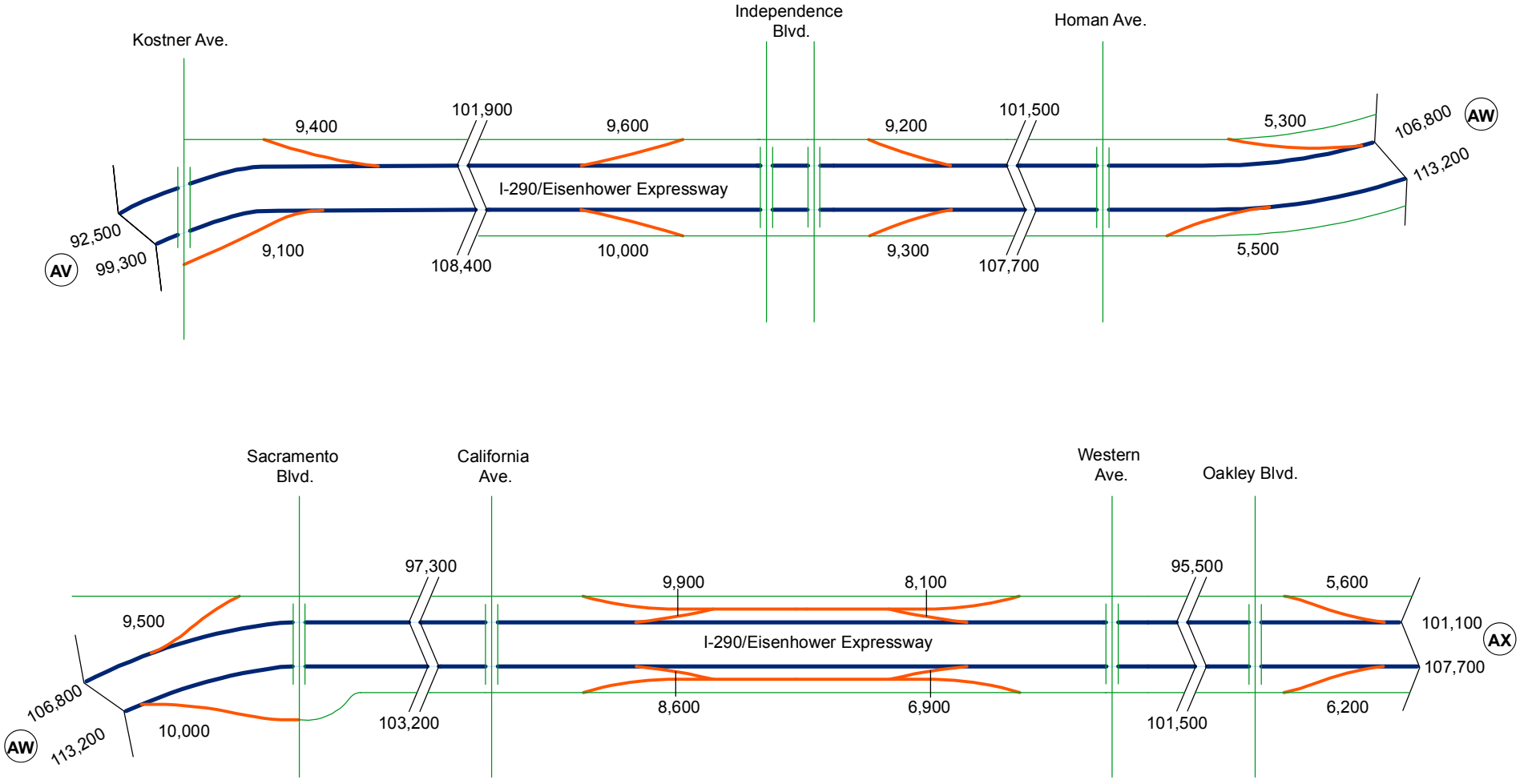



2014 Annual Average Daily Traffic

I-290 Eisenhower Expressway, from 1st. Ave. to IL. Rte. 50/Cicero Ave.



Chicago Metropolitan
Agency for Planning

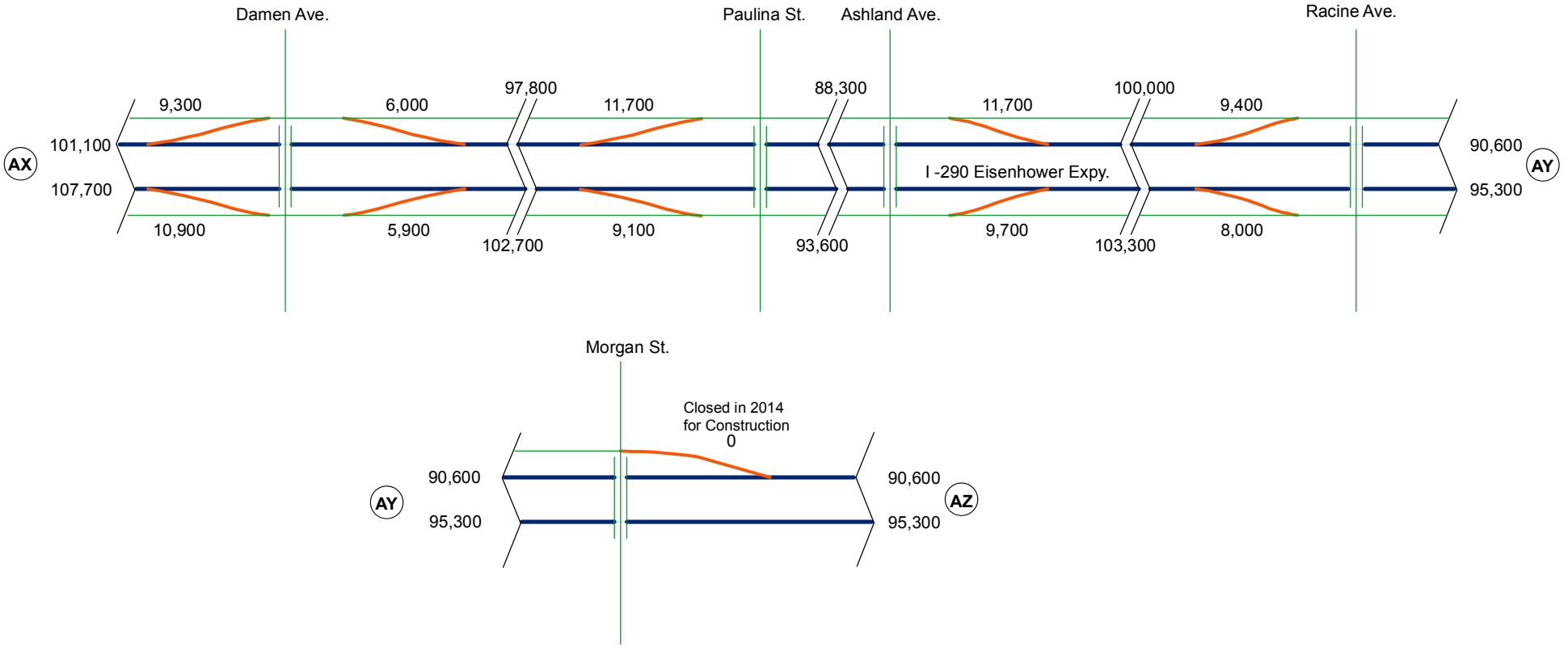



2014 Annual Average Daily Traffic

I-290 Eisenhower Expressway, from Kostner Ave. to Oakley Blvd.



Chicago Metropolitan Agency for Planning

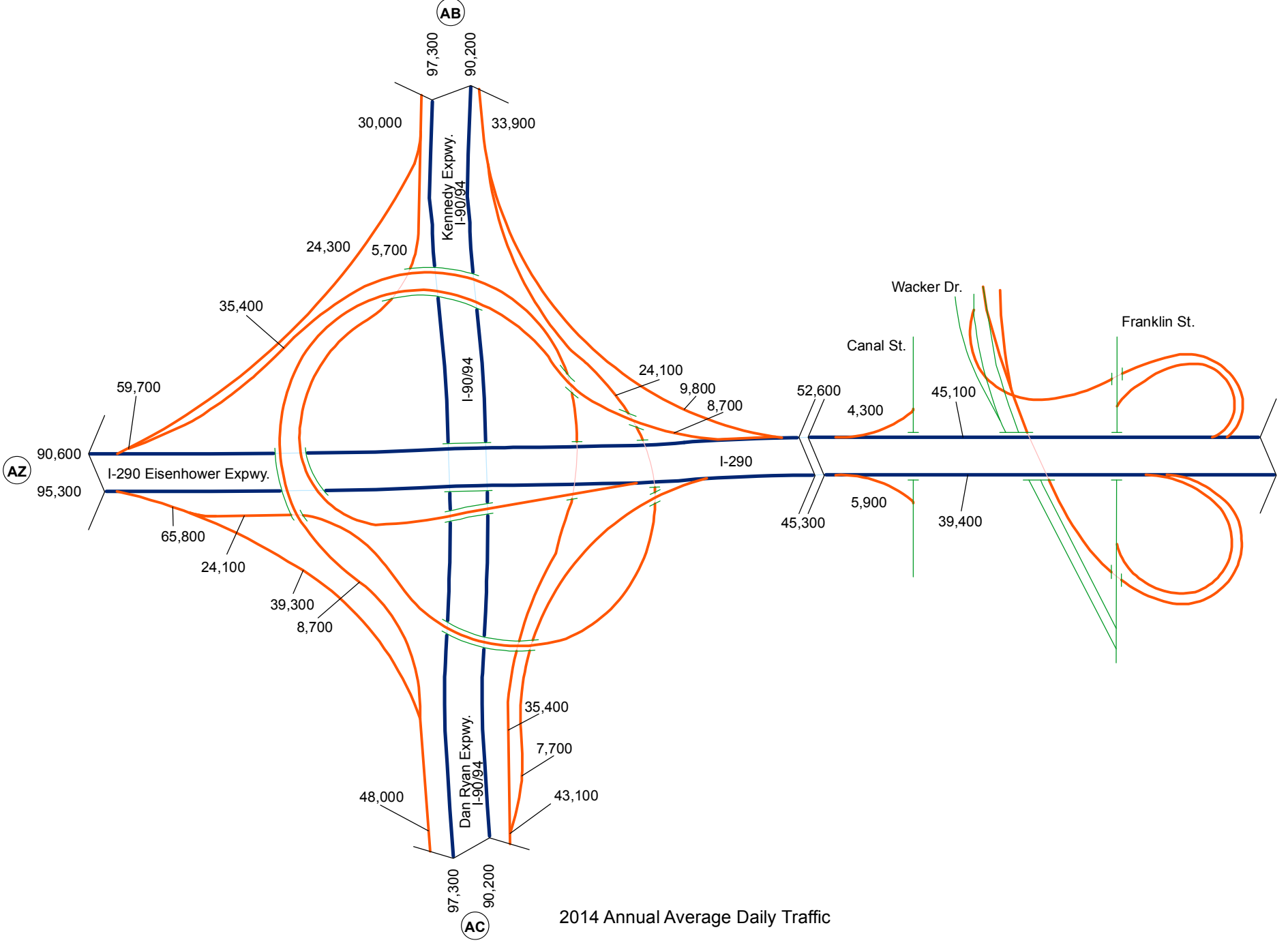



2014 Annual Average Daily Traffic

I-290 Eisenhower Expressway, from Damen Ave. to Morgan St.



Chicago Metropolitan
Agency for Planning

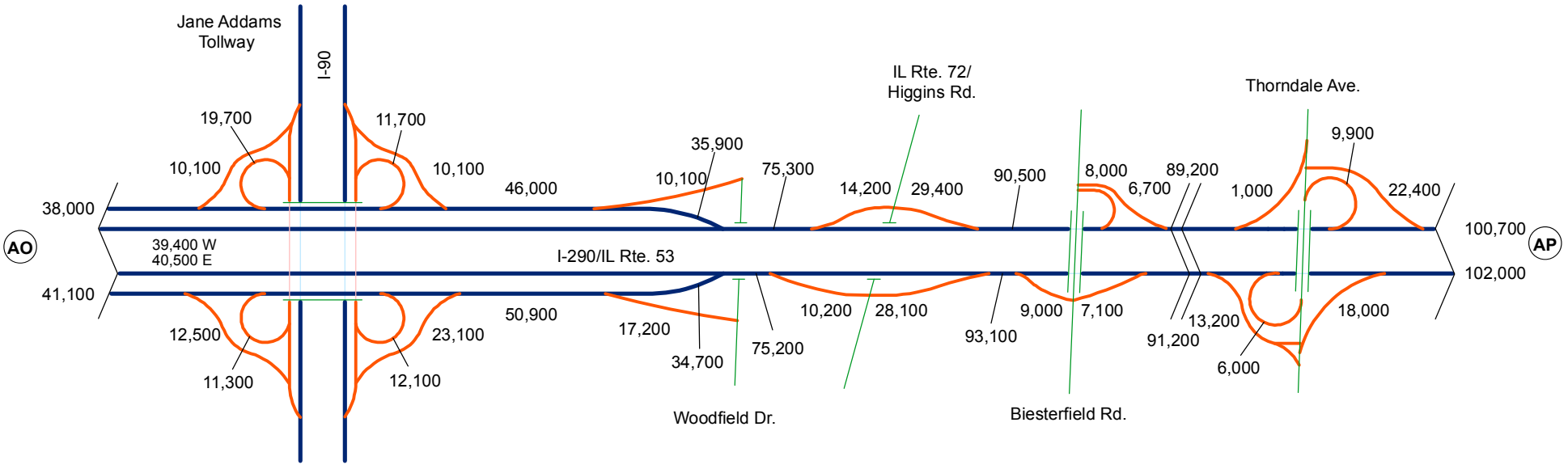



2014 Annual Average Daily Traffic

I-290 Eisenhower Expressway, from I-90/94 Kennedy/Dan Ryan Expressways to Wacker Dr./Franklin St.



Chicago Metropolitan Agency for Planning




2014 Annual Average Daily Traffic

I-290 Extension/Illinois Route 53, from I-90 Jane Addams Memorial Toll. to Thorndale Ave.



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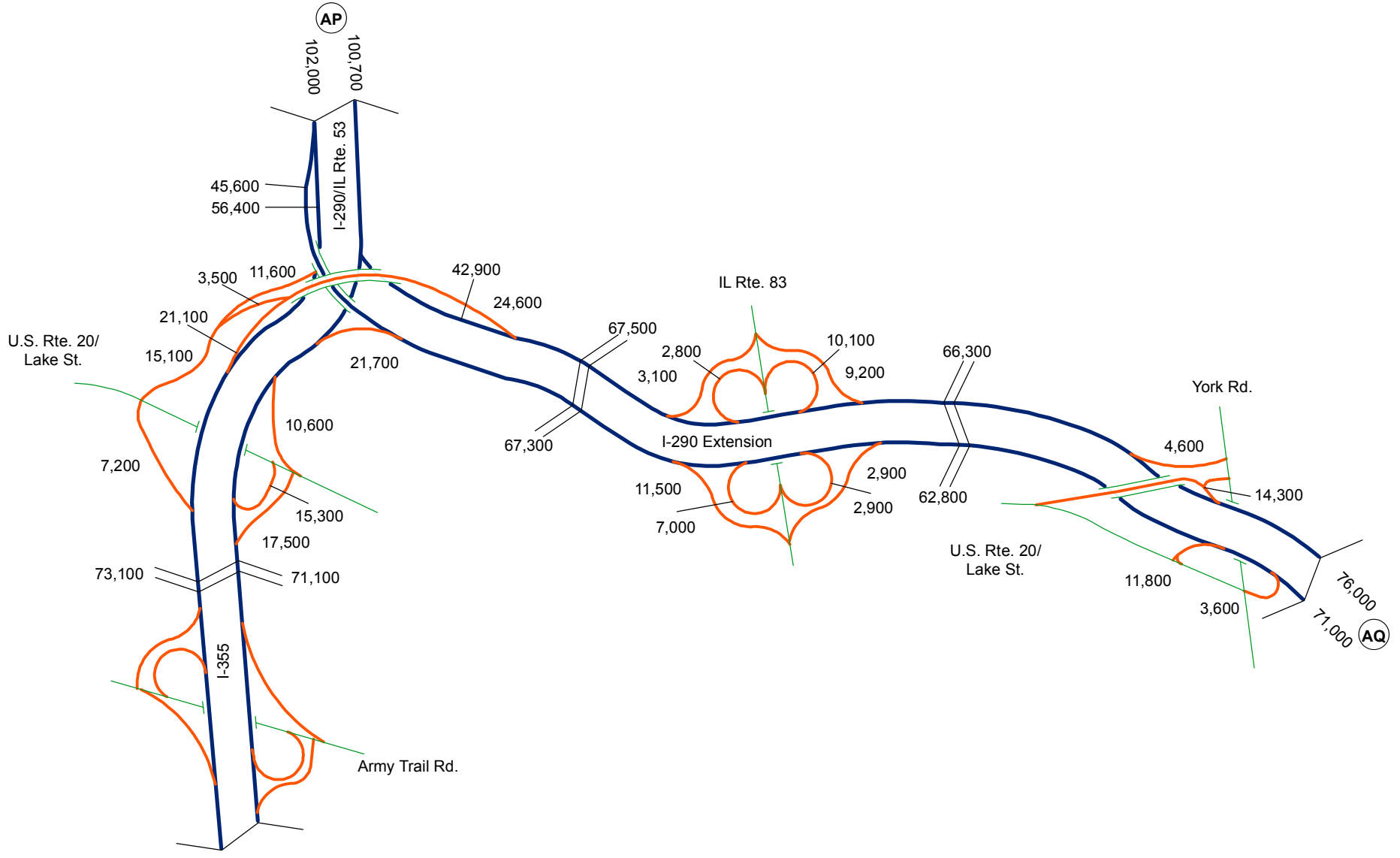


2014 Annual Average Daily Traffic

I-290 Extension from Army Trail Rd. to York Rd.



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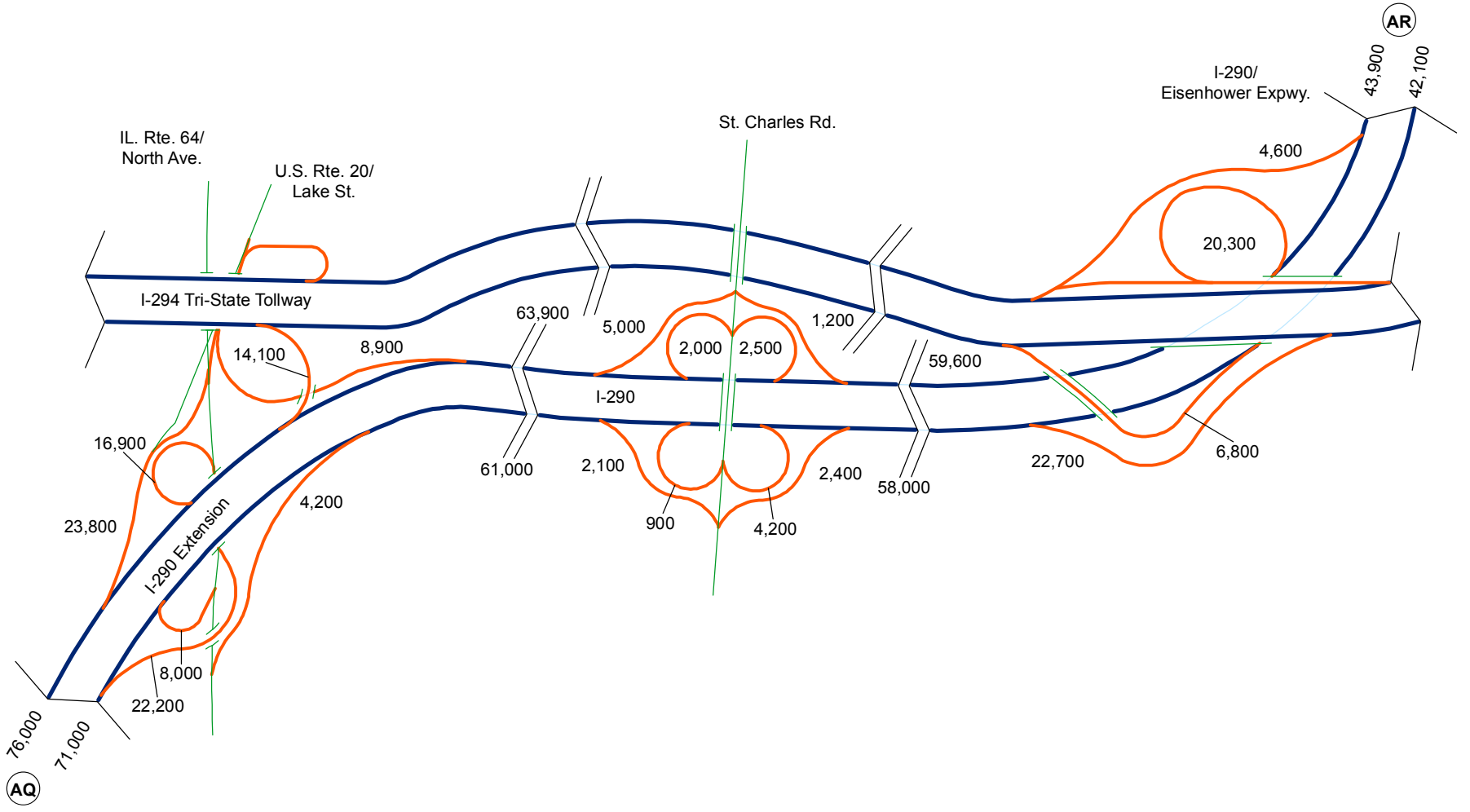


2014 Annual Average Daily Traffic

I-290 Extension, from IL. Rte. 64 and U.S. Rte. 20 to I-290 Eisenhower Expwy.



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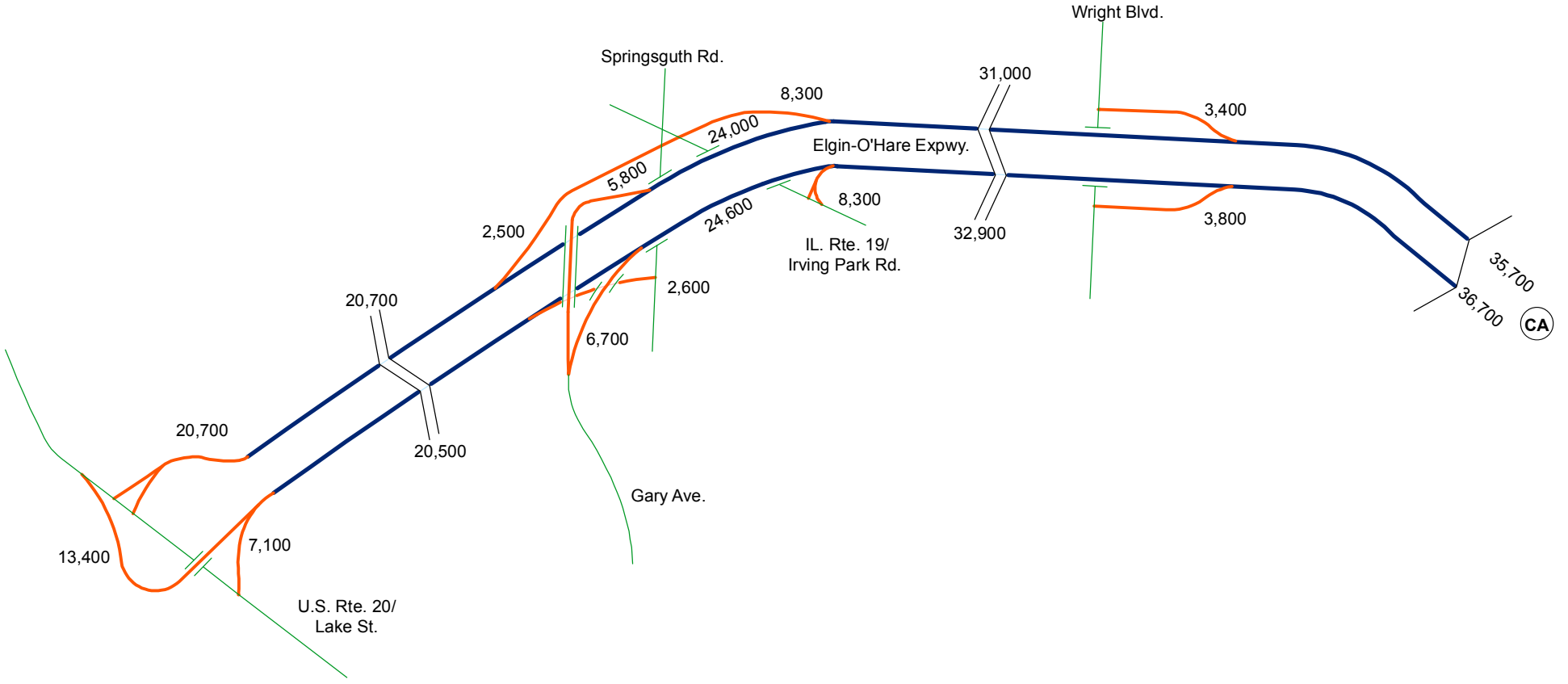


2014 Annual Average Daily Traffic

Illinois Route 390/Elgin-O'Hare Expressway, from U.S. Rte. 20/Lake St. to Wright Blvd.



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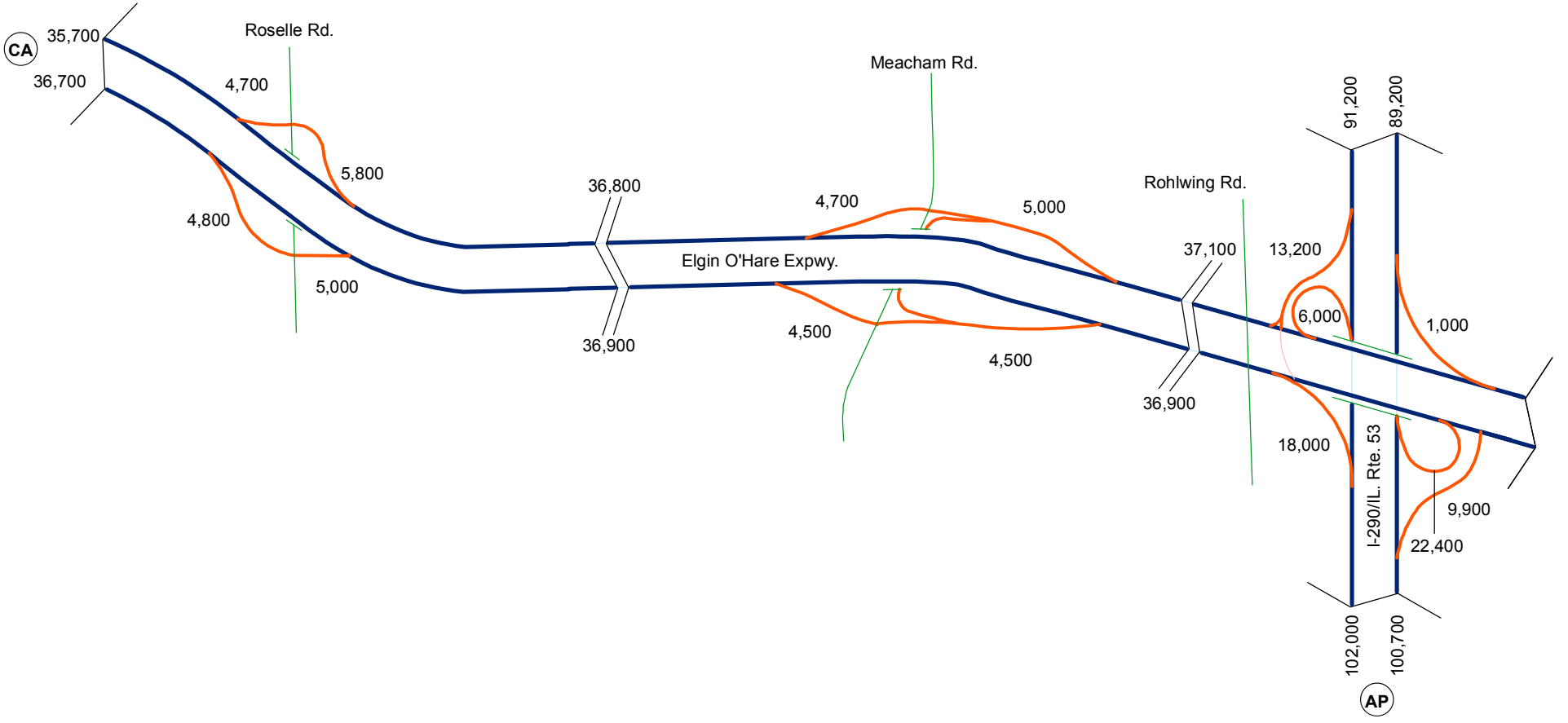
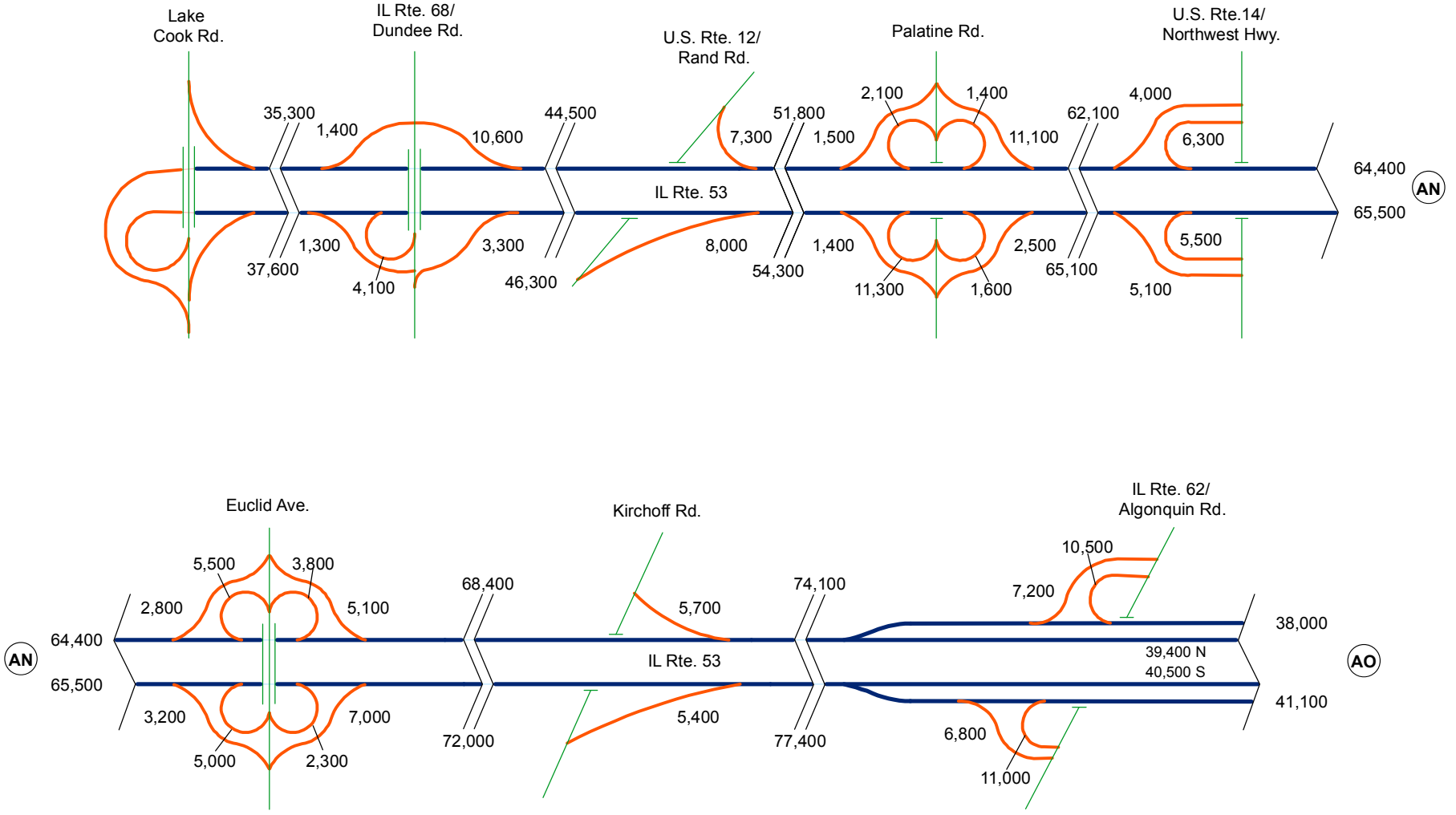



2014 Annual Average Daily Traffic

Illinois Route 390/Elgin-O'Hare Expressway, from Roselle Rd. to I-290 Extension at Thorndale Ave.



Chicago Metropolitan Agency for Planning




2014 Annual Average Daily Traffic

Illinois Route 53, from Lake-Cook Rd. to IL. Rte. 62/Algonquin Rd.



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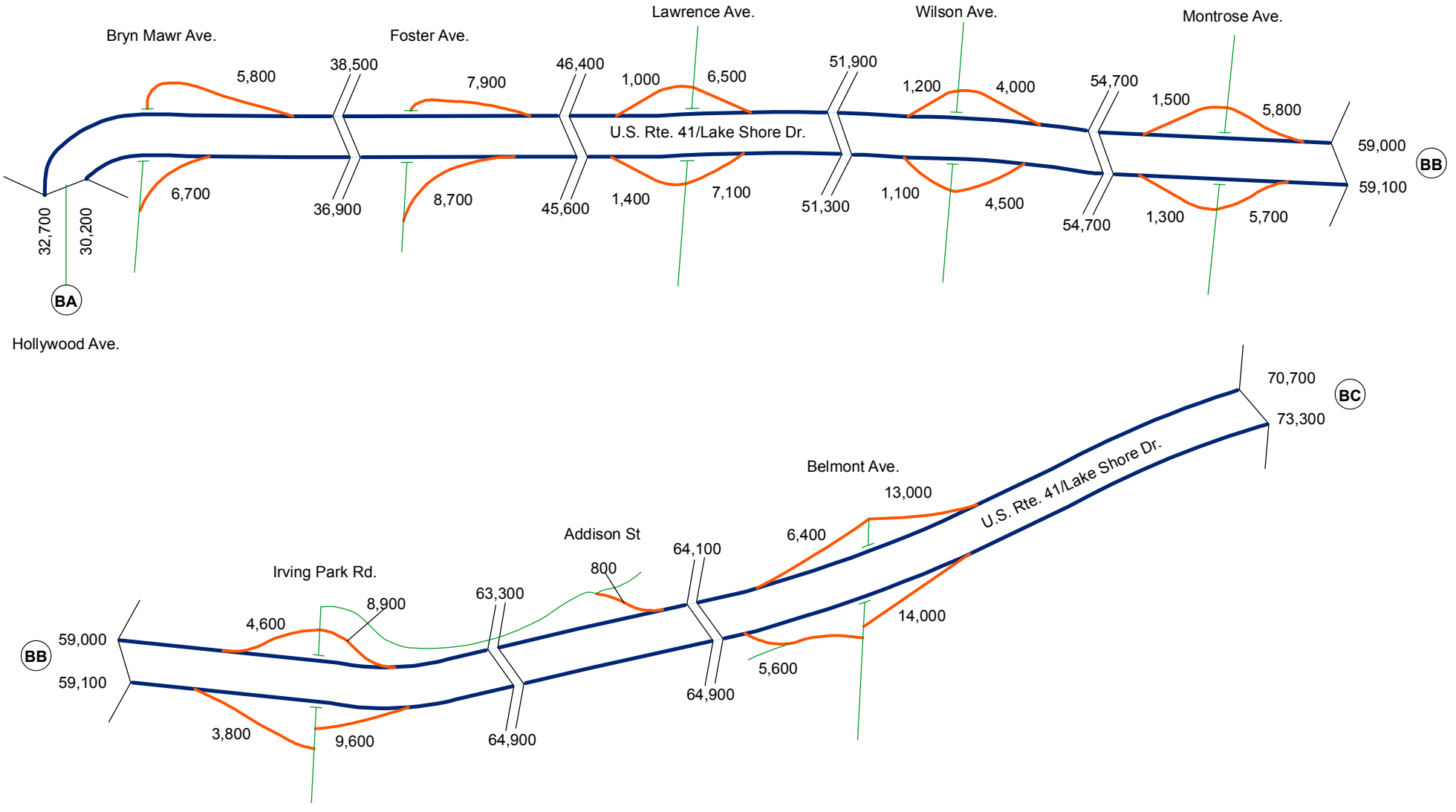
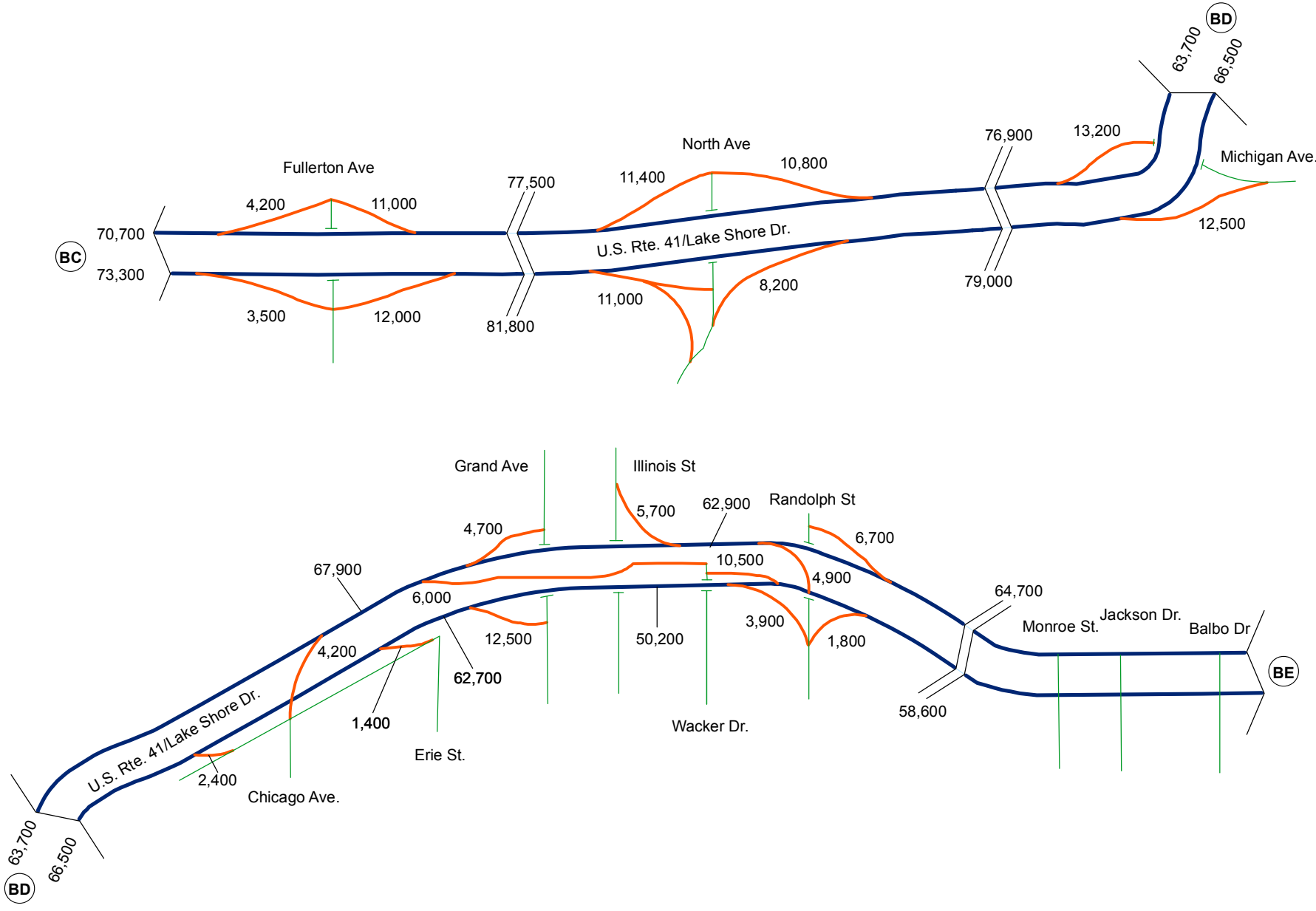



2014 Annual Average Daily Traffic

U.S. Route 41/Lake Shore Drive, from Hollywood Ave. to Belmont Ave.



Chicago Metropolitan Agency for Planning

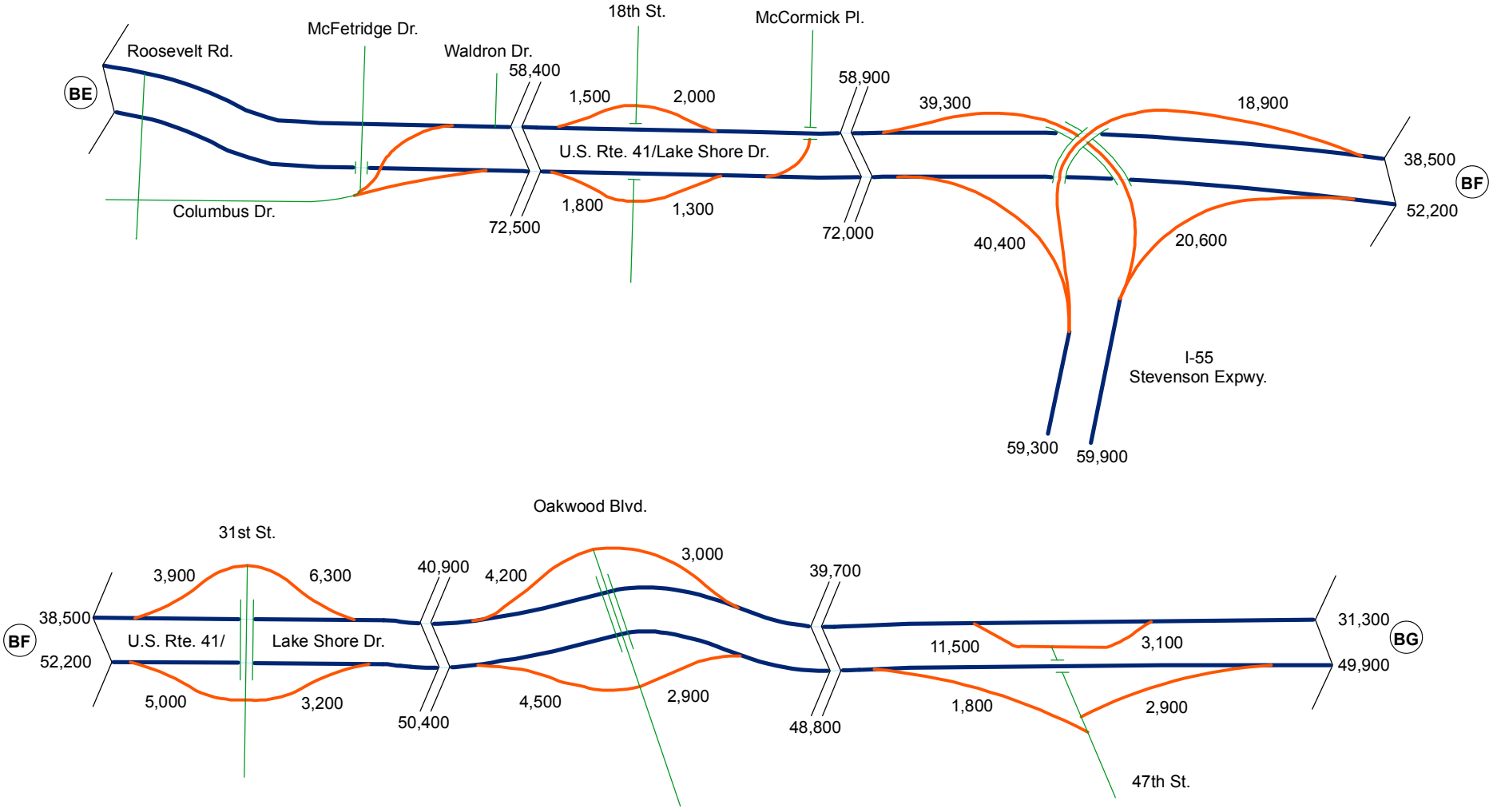



2014 Annual Average Daily Traffic

U.S. Route 41/Lake Shore Drive, from Fullerton Ave. to Balbo Dr.



Chicago Metropolitan Agency for Planning

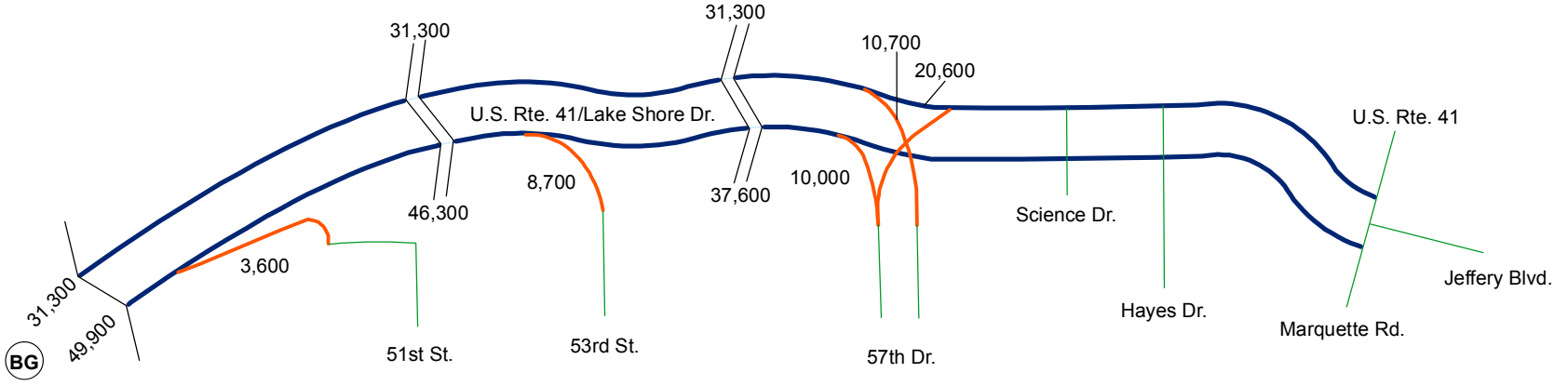



2014 Annual Average Daily Traffic

U.S. Route 41/Lake Shore Drive, from Roosevelt Rd. to 47th St.



Chicago Metropolitan Agency for Planning



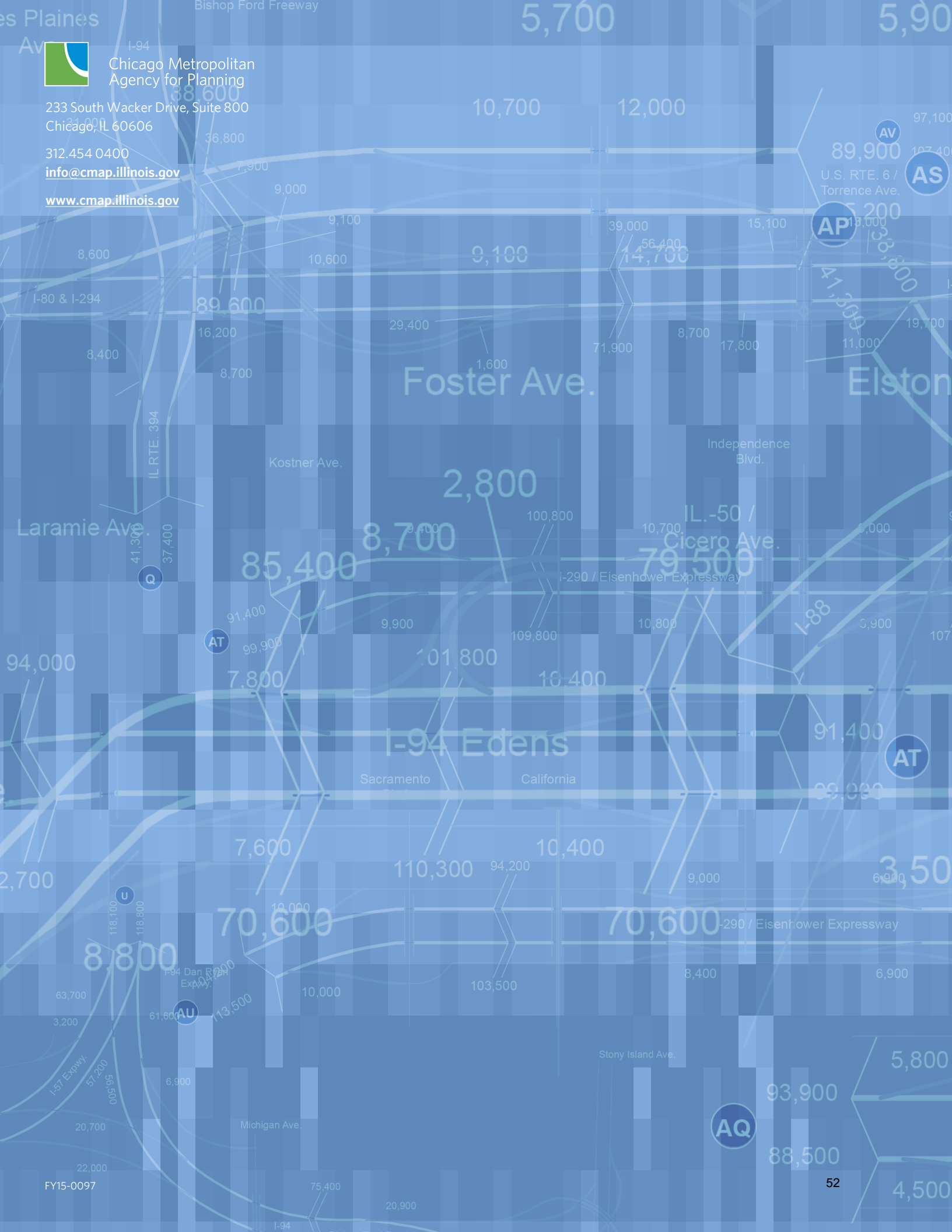

2014 Annual Average Daily Traffic

U.S. Route 41/Lake Shore Drive, from 51st St. to Jeffery Blvd.



Chicago Metropolitan Agency for Planning

The Chicago Metropolitan Agency for Planning (CMAP) is the region's official comprehensive planning organization. Its GO TO 2040 planning campaign is helping the region's seven counties and 284 communities to implement strategies that address transportation, housing, economic development, open space, the environment, and other quality of life issues.

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