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March 1, 2009

Hon. Jaclyn A. Brilling
Secretary
State of New York Public Service Commission
Three Empire Plaza, 14th Floor
Albany, New York 12223-1350

Re: Case 06-T-0650 – Application of New York Regional Interconnect Inc. for a Certificate of Environmental Compatibility and Public Need Pursuant to Article VII for a high voltage direct current electric transmission line approximately 190 miles in length running between a converter station with an AC interconnection to National Grid's Edic Substation in the Town of Marcy and a converter station with an AC interconnection to Central Hudson Gas & Electric's Rock Tavern Substation in the Town of New Windsor.

Dear Secretary:

Enclosed for filing in the above-referenced matter are an original and two copies of the pre-filed responsive testimony to the Communities Against Regional Interconnect Thruway Alternative, submitted on behalf of the New York State Thruway Authority. I hereby certify that a copy of same was served today on all parties to this proceeding by electronic mail via the electronic list serve established for that purpose in this proceeding. Thank you.

Respectfully,

Patrick J. Sweeney

Enc.

cc: active party list

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BEFORE THE
STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

In the Matter of

Application of New York Regional Interconnect Inc. for a Certificate of Environmental Compatibility and Public Need Pursuant to Article VII for a High Voltage Direct Current Electric Transmission Line Running Between National Grid's Edic Substation in the Town of Marcy, and Central Hudson Gas & Electric's Rock Tavern Substation Located in the Town of New Windsor

Case No.: 06-T-0650

March 30, 2009

Testimony of: Christopher A. Waite

The New York State Thruway Authority
200 Southern Boulevard
Post Office Box 189
Albany, New York 12201-0189

Q. Please tell us your name and current employment.

A. Christopher A. Waite. I am the Chief Engineer for the New York State Thruway Authority and the New York State Canal Corporation.

Q. What is your educational background and employment history?

A. I received my Bachelor of Science in Engineering from Rensselaer Polytechnic Institute in Troy, New York. I have been a registered Professional Engineer in New York State since 1981, as well as a past president and member of the Albany Society of Engineers since 1985. I have worked for the Thruway Authority for 34 years. I became Chief Engineer in March of 2006. Prior to that, my positions with the Authority were as follows: Supervisor of the Pavement Management Unit (1988-1992), Director of Design Quality Assurance (1992-1993), Director of the Bureau of Highway Design (1993-2000), Director of the Office of Design (2000-2002) and Director of Engineering Services (2004-2006). Between 2002 and 2004, I directed a comprehensive study of regional transportation needs in the 30-mile I-287 corridor, including analysis of the Tappan Zee Bridge.

Q. What are your current duties with the Thruway Authority?

A. I am responsible for all engineering at the Authority. In addition, I oversee the development and implementation of the Authority's $2.1 Billion Capital Construction Program.

Q. What is the purpose of your testimony today?

A. The purpose of my testimony is to provide additional information regarding concerns related to the CARI Buried Thruway Alternative. I am providing a general overview of these concerns because there is only limited information available regarding this possible route alternative. I also understand that the Public Service Commission has ruled that it will not certify this route in this proceeding, but will only consider it for purposes of assessing the route proposed by NYRI. In the event an application is filed with the Public Service Commission regarding a route along the Thruway, the NYSTA will file additional testimony as may be appropriate for that application.

Q. What is your understanding of the proposed Thruway Alternative based on your review of the documents?

A. Relying on CARI's Route Alternatives dated November 25, 2008 and the further explanation provided in its December 8, 2008 "Response to Procedural Ruling of December 2, 2008," I understand that CARI's Buried Thruway Alternative contemplates placement of the facility in the Thruway Right of Way ("ROW") at about mile post 238 west of Exit 31 on the Thruway. The route would then continue east and south to about MP 13 on the Thruway just east of the Tappan Zee Bridge where it would exit the ROW and then travel south along the Metro North tracks in Westchester County.

Utilities in ROW

Q. What are your general concerns about the Thruway Alternative?

A. Generally, I am concerned about the presence of utilities within the Thruway ROW. With the exception of telecommunications, this is generally forbidden by the Accommodation Plan (without an express exemption issued by the federal government). I have reviewed the direct testimony of Michael Mariotti dated January 9, 2009 and the Accommodation Plan attached to his testimony as Exhibit MM-1 and the Exception Policy attached as Exhibit MM-2. I am in agreement with Mr. Mariotti's direct testimony with respect to the Accommodation Plan. As noted by Mr. Mariotti's testimony, the Thruway is subject to the Accommodation Plan and must abide by it. It is also our general policy because the Thruway is a transportation facility.

Q. Please provide a general description of the portion of the Thruway ROW that you understand to be affected by CARI Buried Thruway Alternative.

A. Generally, between mile post 238 and mile post 13, the Thruway ROW is 250 feet wide with 4 to 8 lanes of traffic, two shoulders and a median. The lanes are 12 feet wide, each outside shoulder is 10 feet wide and the medians vary in width. The ROW can be considerably narrower than 250 feet especially where there are bridges or where the thruway is in urban and suburban areas. As noted below, there are plans and studies for congestion relief which will use additional land in the ROW.

Q. What is the general purpose of the Thruway?

A. The Thruway is a high volume restricted access road designed to permit travel generally at 65 miles per hour.

Q. What kind of traffic volumes does the Thruway handle?

A. In 2007, commercial and other vehicular traffic took 256 million trips on the Thruway. These trips include trips taken by motorcycle, car, truck, and tractor trailer vehicles.

Q. Please describe the traffic volumes in the areas considered by the Thruway Alternative?

A. For the year 2007, the Thruway's Annual Average Daily Traffic (or AADT) statistics—which is the generally accepted measure of traffic volume on roads such as the Thruway—indicates that, for the area implicated by the Thruway Alternative, traffic volumes ranged from a low of about 23,000 in the vicinity of Exit 30 which increases to about 75,000 at exits 24 to 25 in the Albany area. South of Albany to exit 16 on the Thruway the AADT is generally in the range of about 45,000 to 50,000, except from exits 19 to 21A where the range is about 37,000 to 40,000. Traffic becomes even heavier from exit 16 through the Tappan Zee Bridge where the AADT ranges from about 95,000 to 138,000.

Q. Does the Thruway have projections for levels of usage?

A. Yes.

Q. Please identify Exhibit 6.

A. That is a map which fairly and accurately depicts our projected levels of usage or service in the year 2020. The map was created by the Thruway in 2000 as a part of comprehensive, long range infrastructure needs analysis for the NYSTA. I will refer to that document as the 2020 Map. As set forth in the map legend, levels of service D, E. and F are the lowest levels of service in descending order. They are depicted on the map as yellow, orange and red respectively. These areas have the lowest levels of service because they have the greatest traffic congestion. As is obvious from the 2020 Map, most of the area contemplated by the CARI Buried Thruway Alternative has high or the highest levels of projected congestion.

Q. Please identify Exhibit 7.

A. It is an explanation of the levels of service to which I just referred.

Q. How does the volume of traffic affect your concerns about the CARI Buried Thruway Alternative?

A. If one were to assume an average of two passengers per vehicle on the Thruway, the aforementioned AADT figures indicate that, depending on the area, anywhere from 46,000 to 280,000 people are affected on a daily basis by conditions on or near the Thruway. At the high end this is approximately equivalent to the population of Buffalo, our state's second largest city. My concern is that activities and obstructions on the road surface, median and shoulder create obvious hazards to the traveling public, especially on high volume, high speed limited access highways.

A. As an initial matter, I should note that the installation of a telecommunication utility is not prohibited by the Accommodation Plan. Moreover, the installation involved relatively limited construction: a trench that was about 42 inches deep and about one foot wide. The line consisted of six 1 1/4 inch plastic conduits that can be moved by hand and are easily manipulated. The trenching, cable laying, and back filling could be accomplished in essentially one operation, creating minimal disruption to Thruway operations. Similarly, maintenance and repair of the cable was anticipated to be extremely infrequent. Nonetheless, the cable was required to be at the edge of ROW except where obstacles made this impossible. Significantly, the fiber optic line does not present a risk of electrocution or explosion. The line also provided an improved communication system for NYSTA on the Thruway and, therefore, also provided a benefit for the Thruway.

Q. Where in the Thruway ROW is the fiber optic line placed?

A. The company that laid the fiber optic line chose the north bound side of the Thruway as the optimal side for placement of cable in the ROW, but it was unable to run continuously at edge of the ROW on the northbound side because of natural barriers. As a result, it runs, at times, under the median and, at times, on the southbound side. The fiber optic line was also positioned in the shoulder in certain areas because the remainder of the ROW was not suitable for burial of the line. Throughout its run, the fiber optic line occupies what was thought to be the best part

(and sometimes the only part) of the then-available area within the Thruway ROW for underground installation.

Q. Please estimate the number of locations in the area of the CARI Buried Thruway Alternative where the fiber optic line runs in the shoulder, median, or southbound side of the Thruway.

A. Based on a review of records maintained by NYSTA and/or the contractor responsible for the operation of the fiber optic line, that line is located in the shoulder or median in more than 40 locations. There are additional locations where the line runs along the southbound lanes. Each of these locations presented obstacles that required placement of the fiber optic cable in an alternate location. The placement of this cable in these areas would generally preclude the placement of other utilities such as the CARI Buried Thruway Alternative in this same area.

Q. How has the installation of the fiber optic line affected the normal maintenance and improvement activity of the NYSTA?

A. Normal Thruway maintenance, operations and improvements have required the marking and avoidance or the marking and movement of the fiber optic line more than 8600 times from March 2008 through February 2009. These markings were necessary for a number of reasons, including construction of improvements; guide rail placements, culvert extensions, installation of stone fill aprons to control erosion at culvert openings, slope drain installations to preserve slope near the road surface, and correction of landslides and rock slides. Each time a marking is necessary, the work

is delayed and costs are incurred. If a movement of the cable is necessary, there are even greater costs and delays. Of course, the fiber optic line occupies less space and is plainly less dangerous than the CARI Buried Thruway Alternative

Specific Concerns—Trenching and Movement

Q. What are some more specific concerns you have about the Thruway Alternative?

A. As an initial matter, I am concerned about the proposed trenching activities and the dimensions, weight, and dangers of the cables. The CARI proposal suggests a trench that is nine feet wide and five feet deep with two cables in each trench. This is generally consistent with the description provided by NYRI in Exhibit E-3 of the NYRI application related to underground construction. The diameter of the cables is not provided in the CARI proposal, but Exhibit E-3 states that there will be two cables each of which would be about 5 inches in diameter. This is much larger than the fiber optic lines. Exhibit E-3 also states that the estimated weight of the cable is 22 pounds per foot. This is considerably heavier than the fiber optic cables. The weight and the dangers created by the high voltage would preclude movement of the cables by hand. In contrast, the fiber optic cable can be, and has been moved, by hand.

Q. Why does trenching pose a potential problem?

A. The depth of the trench creates issues because the packed soil under the Thruway road surface and shoulders is only four feet deep. The

material beneath this four foot band is often either naturally occurring rocks or boulders that can range in size from bowling balls to in excess of ten feet in diameter. These boulders also were used as backfill in certain areas during the construction of the thruway. As a result, even in areas where rock outcroppings are not apparent, subsurface rock will create delays, hazards and added expense.

The depth of the trench will also interfere with the numerous culvert pipes that cross below the Thruway. There are more than 5800 such culverts under the Thruway along the proposed route. These culverts are essentially to permit proper drainage and to protect the integrity of the road bed. The culverts are generally 4 to 6 feet below the road bed, but are much closer to the surface in areas adjoining the shoulders, especially where there is a downward slope to the adjoining area. The contemplated trench will almost certainly intersect with many culverts, requiring costly repairs and the redirection of the trench and cable.

The width of the trench will also create problems wherever trenching on or near the shoulder is required. In these areas, lane closures for prolonged periods will certainly be necessary not only during construction, but also during maintenance and repair work.

Additionally, the size of the trench, the amount of soil and rock to be disturbed, and the special requirements for bedding the high voltage cables all require a platoon of heavy equipment such as trenchers, rock cutters, loaders, dump trucks, delivery vehicles and more to accomplish

the work. This equipment and its operation pose a risk to Thruway travelers.

Specific Considerations—Splicing Boxes and Manholes

Q. What other specific concerns do you have about the Thruway Alternative?

A. The CARI proposal does not address the need for large splicing boxes that will likely require depths in excess of five feet, work for prolonged periods, and perhaps manholes. Exhibit E-3 indicates that splicing boxes will be required at least every 2000 feet and that the work would continue until the splice is complete. Any such work in the vicinity of the road surface will almost certainly require at least one and maybe more lane closures for an extended period of time. Such lane closures will create massive traffic congestion in the heavily traveled areas north of the Tappan Zee Bridge and in the Albany area. Congestion and disruption will also be likely in the other areas of the route where the Level of Service is D or E. These lane closures and the congestion will create traffic hazards for the traveling public as well as dangers to the workers on the project.

With respect to manholes, these structures are not, except in extremely rare occasions, permitted on or near the Thruway road surface and shoulders. In constructing and operating a high speed, high volume interstate highway, the NYSTA attempts to protect the traveling public by avoiding to the extent possible uneven surfaces or the incorporation of non-uniform materials. Moreover, we also avoid, except in rare

circumstances, placement of manholes in these areas because they will be points of access for maintenance and repairs. This non-highway-related work will require lane closures and increase the hazards to the traveling public, as well as result in significant traffic delays.

Specific Considerations—Rock Cuts

Q. What other specific concerns do you have about the CARI Buried Thruway Alternative?

A. The Thruway has many rock cuts that abut the highway. These rock cuts cannot be trenched. We do not know if the contemplated cables can be placed in borings. Even if this is possible, the rock cuts generally cannot be bored because the rock is granite or other igneous rock. The fiber optic line was therefore placed in the median or shoulder in more than 40 locations from MP 13 to MP 238. The fiber optic cable was also required to cross underneath the Thruway in additional locations and travel along the southbound lanes of the Thruway. It is extremely unlikely that the CARI Alternative will be able to be located in these areas already occupied by the fiber optic line.

Q. Please identify Exhibit 8.

A. Those are photographs taken of the rock cut at approximately mile post 121.3. These photographs fairly and accurately depict the road and rock cuts at this location.

Q. Please identify Exhibit 9.

A. Those are photographs of the rock cut at approximately mile post 212.9. These photographs fairly and accurately depict the road and rock cut at this location.

Q. Please explain the significance of Exhibit numbers 8 and 9.

A. These are examples of rock cuts that occur frequently along the Thruway ROW. As noted above, at these and other rock faces, rock also likely exists four feet below the surface of the road, shoulders, and median. Between mile post 13 and mile post 238, the Thruway has catalogued more than 300 major rock faces on the southbound side, northbound side, and exit and entrance ramps. There are also additional smaller rock faces or cuts in this portion of the Thruway.

Specific Considerations—Thruway Improvements and Expansions

Q. What other concerns do you have about the CARI Buried Thruway Alternative at this time?

A. Before a utility is placed on the Thruway, consideration must also be given to improvements and expansions of the Thruway. For example, the toll plaza at the Woodbury tolls is presently undergoing a major expansion to permit the addition of more toll lanes to accommodate high speed EZ Pass tolls. This has an impact on available ROW.

As depicted in Exhibit 6, the 2020 Map, the area between the Tappan Zee Bridge and Suffern is exceedingly heavily traveled, and is projected to reach Level of Service F. As the description in Exhibit 7 shows, this level of service has the highest traffic congestion and is the

least desirable level of service. Consequently, this portion of the Thruway is the subject of studies to determine how best to increase the capacity of the road and improve the flow of traffic. Expansion of the road surface into additional portions of the ROW is one of the options under consideration.

Also as depicted on the 2020 Map, the Albany section of the Thruway between Interchanges 23 and 25 has been identified as a section of road that will reach Level of Service E and F. A portion of this area is scheduled for major reconstruction, including expansion of the road surface, installation of noise barriers and construction of storm water retention ponds. These actions will require occupation of additional area in the ROW. The project is presently in the permitting and funding stage. Contract letting is presently expected in late 2011.

Moreover, NYSTA continues to consider additional improvements and expansion of the Thruway, particularly in areas where expected levels of service of D, E, and F have been identified. The 2020 Map depicts these areas in yellow, orange, and red. As is apparent from a review of this map, much of the CARI alternative route, which stretches from about interchange 9 through about interchange 31, is expected to reach or has reached these levels of service. These improvements and expansions may occupy larger portions of the ROW.

Specific Considerations—Bridges

Q. What other specific concerns do you have about the Thruway Alternative?

A. Because of the numerous ravines and rivers crossed by the Thruway and the igneous rock throughout the Hudson and Mohawk Valleys, a utility such as the one under consideration will likely be affixed to numerous Thruway bridges, if placed in the Thruway ROW. At a minimum, the CARI Buried Thruway Alternative suggests affixing the facility to the Tappan Zee Bridge.

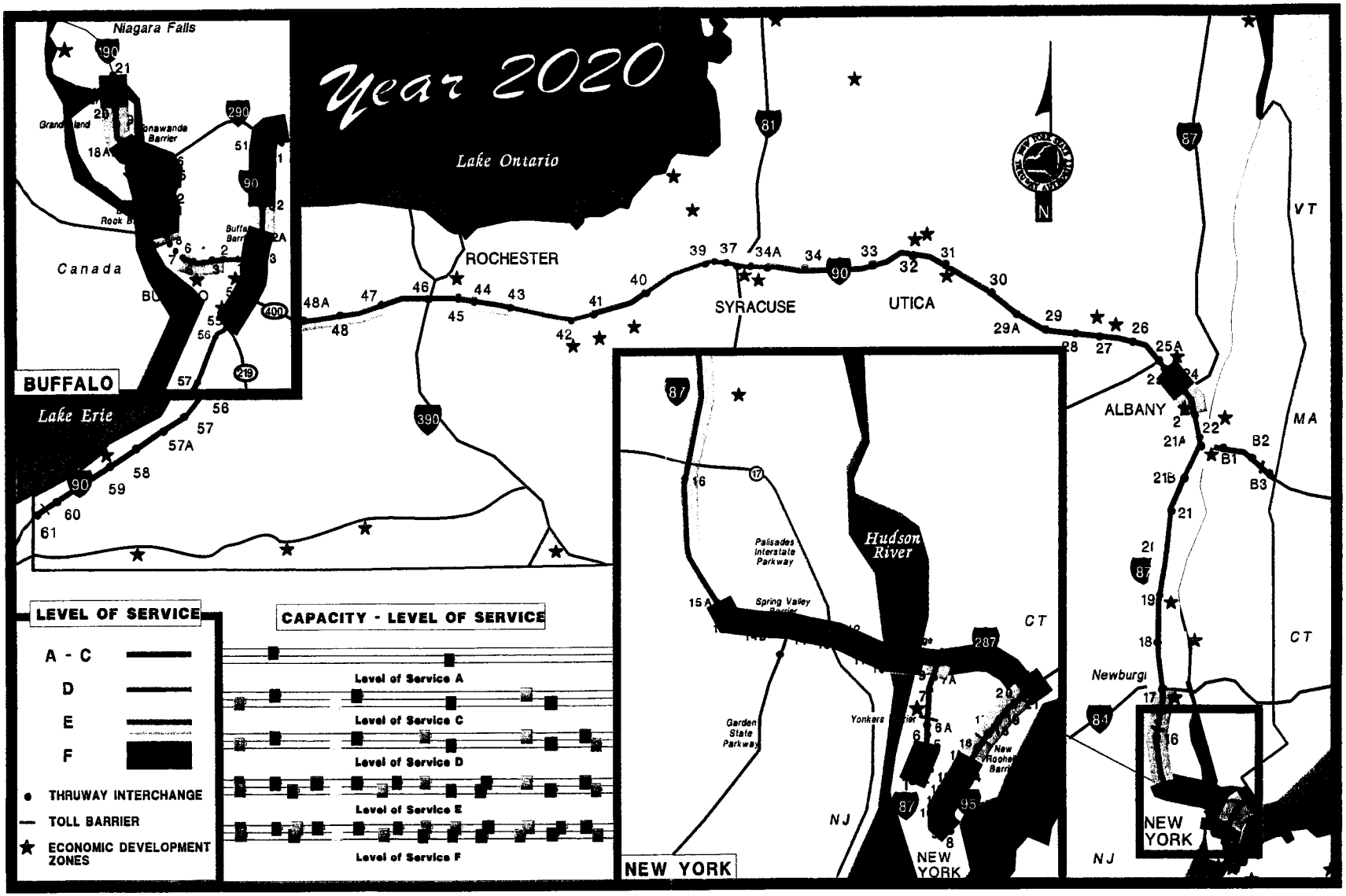
This bridge placement presents numerous issues. Examples of these issues that are now apparent follow: First, the weight of and heat generated by the cable will need to be assessed before affixing the cable to each bridge. Sufficient information to perform this assessment is not contained in the CARI Buried Thruway Alternative. Second, regular maintenance and replacement of bridge structure will require the movement of this cable. There will be costly delays, increased danger, and work associated with any such movement. It may also be necessary to effect lane closures for the safe conduct of this work. Third, the bridges are subject to expansion and contraction and the heavy truck and car traffic generates considerable vibration. The vibration, expansion and contraction will likely have an adverse affect on the life of the cable, its insulation, and any cable joint bays placed on the bridge structure. Fourth, the very high voltage carried by these cables will necessarily be in close proximity to the traveling public in these areas and may interfere with

emergency radio communications. This high voltage will expose Thruway maintenance and other workers to additional hazards when performing normal maintenance and repair activities.

Specific Considerations—Wetlands

Q. What other specific concerns do you have about the Thruway Alternative?

A. Finally, the Thruway ROW crosses hundreds of Federal and State wetlands. Disturbance of these areas by trenching will raise environmental issues.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LEVEL OF SERVICE
A - C
D
E
F
THRUWAY INTERCHANGE
TOLL BARRIER
ECONOMIC DEVELOPMENT ZONES
CAPACITY - LEVEL OF SERVICE
Level of Service A
Level of Service C
Level of Service D
Level of Service E
Level of Service F

Level of Service (LOS) Characteristics

LOS A

* Free flow speeds
* Lane changes unimpeded
* Minimum 26 car lengths between vehicles
* Incidents easily absorbed

LOS C

* Near free flow speeds
* Lane changes require care
* Minimum 11 car lengths between vehicles
* Incidents absorbed, may be minor queuing

LOS D

* Speeds begin to decline
* Lane changes limited
* Minimum 8 car lengths between vehicles
* Incidents difficult to absorb

LOS E

* Speeds reduced significantly
* Lane changes extremely limited
* Minimum 6 car lengths between vehicles
* Flow breakdowns with even minor incidents

LOS F

* Very slow; stop & go
* Lane changes virtually impossible
* Less than 6 car lengths between vehicles
* Minor incidents cause complete stoppages