



THE STATE OF NEW HAMPSHIRE  
DEPARTMENT OF TRANSPORTATION

CHARLES P. O'LEARY, JR.  
COMMISSIONER

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May 8, 1991

Gerald L. Eller  
Division Administrator  
Federal Highway Administration  
279 Pleasant Street  
Room 204  
Concord, New Hampshire 03301

Dear Mr. Eller:

In response to your request for additional information to support our request for approval of an additional access point on I-93 in Derry/Londonderry, I would like to first present an overview of the region that helps to explain the interaction of this proposal with other projects in the area. Following this explanation, responses to each of the four issues identified in your letter of April 23, 1991 will be presented.

Regional Overview

The proposed Nashua-Hudson Circumferential Highway (seven miles southwest of I-93 Exit 4) will have an interchange with Route 102. Also, the Manchester Airport expansion includes a major access road connecting near Exit 5 on I-93. These projects in conjunction with Exit 4-A will provide a regional and coordinated approach to access to and through this area of the state.

A future benefit to the region provided by Exit 4-A is the proposed creation of a high tech industrial park near the exit. This will create local employment for people in the area without undue strain on the Interstate. We believe the development of these types of facilities in New Hampshire will decrease the number of daily commuters to Massachusetts which could lead to an easing of traffic on I-93.

Responses to April 23, 1991 Questions

The Department of Transportation is firmly committed to constructing eight mainline lanes on I-93 from Salem to Manchester. Although the current Ten Year Highway plan only provides for constructing six lanes on I-93, the Department of Transportation will be requesting approval to construct eight lanes to accommodate the projected traffic volumes. In addition through the ongoing Environmental Impact Statement (EIS) for the I-93 widening the Department will present the eight lane alternative.

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As previously stated the Town of Londonderry and the Department do not plan to extend a connection to the proposed Interchange (Exit 4-A) to the west. The existing limited access right-of-way on the westerly side of I-93 will be adjusted but not broken by the Interchange. To further solidify the limited access right-of-way the Department will insure that if the Interchange is built the right-of-way line will be securely fenced.

As previously noted a local bypass of Downtown Derry would provide a 15 to 20 percent reduction in traffic in the center of Derry. Because it provides some traffic relief to Downtown Derry, the Town has proceeded with its design and has scheduled it to be advertised for bids in the fall of 1991. To pay for this improvement, the Town of Derry has executed a \$1,000,000 bond. Derry is committed to relieving Downtown traffic as shown by the planned construction of the bypass, however this will only partially relieve the traffic in the Downtown area and it still funnels all of the traffic to existing Exit 4 resulting in a capacity failure in the Year 2002. It is the Department's belief that the local bypass is a worthwhile project, but does not preclude the need for Exit 4-A to further reduce Downtown Derry traffic and relieve capacity problems at Exits 4 and 5. Your suggestion of extending the four lane section beyond the Londonderry Road Intersection and providing appropriate turn lanes is a good one, however it only improves the traffic flow in the local area and does not solve the problems addressed by Exit 4-A. The further extension of the four lanes through Downtown Derry is unreasonable considering the effect on the community character and the economic impact caused by the removal of all on street parking.

In addition to the local bypass the Town of Derry is committed to other local road improvements to insure traffic using the proposed Exit 4-A will be able to efficiently use the local road system thus decreasing traffic on N.H. Route 102 in the Downtown section. The Exit 4-A Interchange will connect to Route 28 and then via Tsienneto Road connect to Route 102. As part of Derry's ongoing Ten Year Capital Improvements program, they have programmed Transportation System Management (TSM) improvements to Tsienneto Road to insure an adequate local system to feed the new Interchange. Improvements would include construction at the N.H. Route 28, N.H. Route 28 bypass and N.H. Route 102 Intersections with Tsienneto Road.

As you note from this presentation, the Town of Derry fully recognizes and is committed to construct local road improvements which are practicable to alleviate the traffic problems. However, these only ease the traffic congestion whereas Exit 4-A in conjunction with the local improvements will present the total system improvements necessary to address the capacity problems for the 20 year design period.

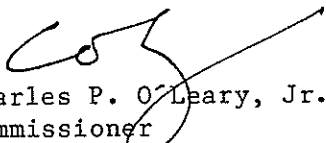
As suggested, the Department has done a sensitivity analysis of the projected traffic volumes to quantify the effect of using a 1.00 peak hour factor versus 0.90 and two percent trucks versus one percent and how these relate to the yearly traffic growth. As noted in the attached traffic analysis (Appendix A), the 1989-1990 traffic in the area has not increased.

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Based on this fact, if the traffic volumes are not increased three percent for the beginning year as done in our previously submitted traffic reports, the effect of the difference in the peak hour factor and percent trucks will be offset. Again we offer to provide new traffic projections during final design if conceptual approval of the Interchange is given by the Federal Highway Administration. In addition if the final traffic analysis shows the Interchange doesn't safely function or meet the design capacity requirements, we will withdraw our request for the Interchange.

We believe all of the issues you have raised have been addressed, and we respectfully request your conditional approval of the new Interchange on I-93 in Londonderry.

Sincerely,



Charles P. O'Leary, Jr.  
Commissioner

CPO/lmm

cc: Governor Judd Gregg  
Executive Councilor Earl A. Rinker, III  
Senator Robert C. Smith  
Senator Warren Rudman  
Representative Richard N. Swett  
Representative William Zeliff  
Selectmen, Town of Londonderry  
Town Council, Town of Derry

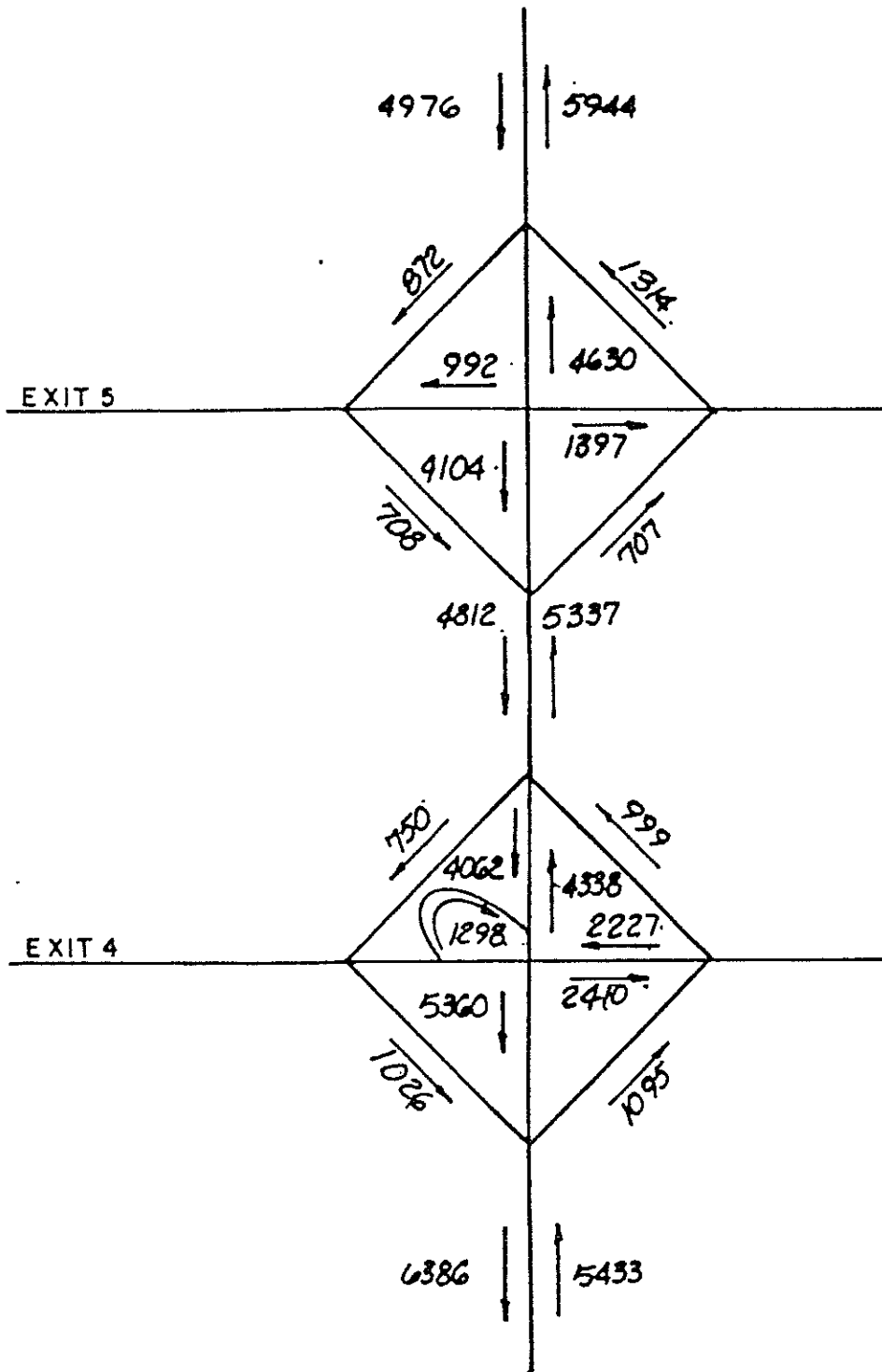
April 4, 1991

APPENDIX A

**TRAFFIC ANALYSES**

Based on our recent discussions with FHWA, the projected 2009 traffic volumes presented in the original Exit 4a application were adjusted to reflect the recent downward trend in traffic growth on the Interstate system in southern New Hampshire due to the economic recession. These trends have shown that system-wide traffic has decreased 3% and 5% between 1989 and 1990. Conversely, the 20-year growth trend exhibited in the traffic model projections is a 3% increase in traffic volumes per year. Therefore, the projected traffic for 1989-1990 and beyond is at least 6% (because of compounding) above the traffic originally used for design purposes. To test the sensitivity of our traffic projections on critical design elements such as % trucks and peakhour factors, an across-the-board 3% reduction of the previously submitted numbers has been developed and tested against the various scenarios.

The capacity of both the mainline Interstate and of Exits 4 and 4a were reanalyzed using these revised traffic volumes to determine the sensitivity of long-range traffic growth on the analysis results. A peak hour factor of 0.90 was utilized in these analyses, and the actual percentage of heavy vehicles observed in the original traffic counts was applied to the existing Interchange ramps. Main line truck percentages were derived from 1989 NHDOT vehicle classification counts taken just south of Exit 4 and were calculated to be 2% in each direction. Figures 29 and 30 depict the revised volumes and the attached table the resultant levels of service on the Interstate system with and without the proposed Exit 4a.



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Not to Scale



FIGURE 29

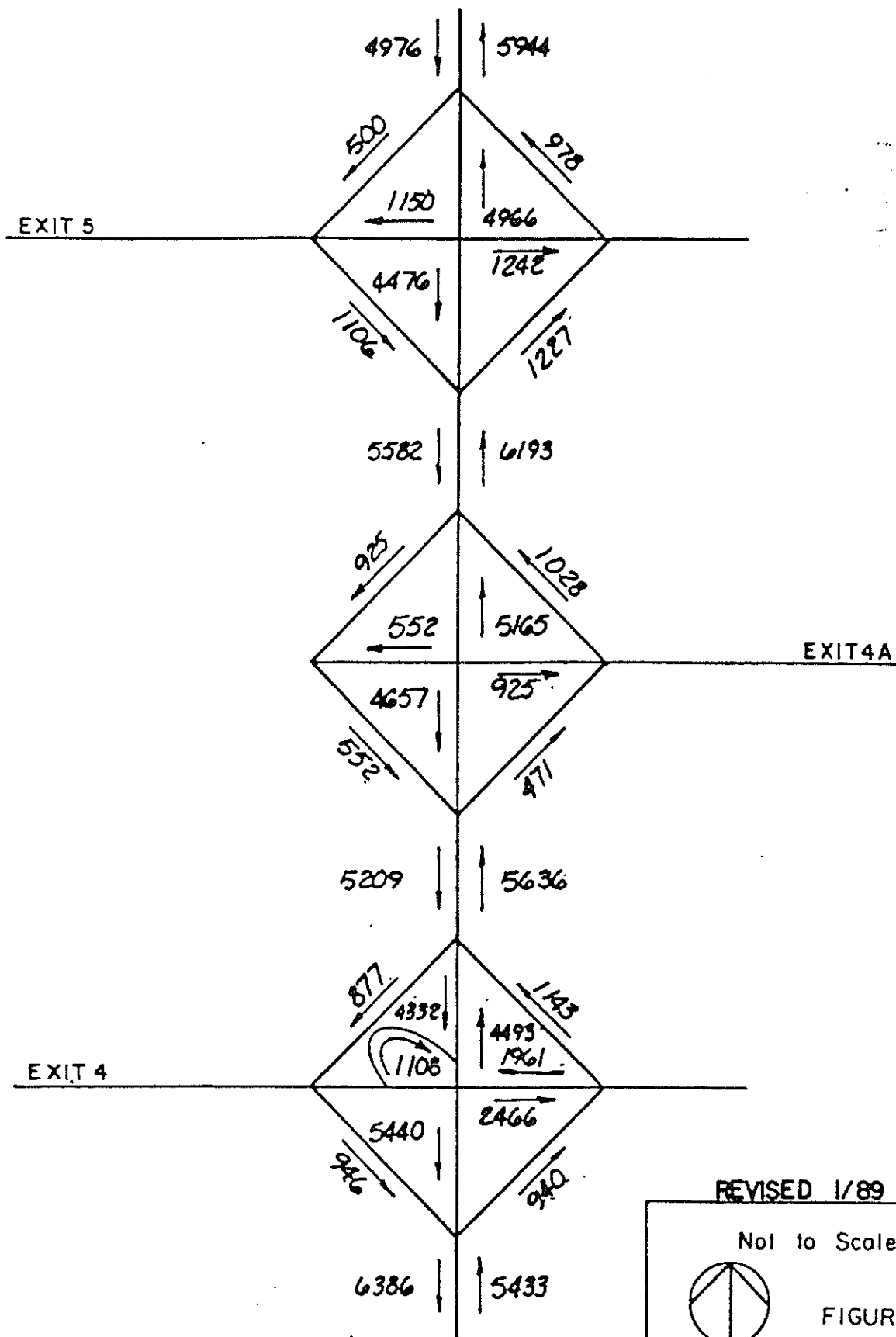
DERRY - LONDONDERRY  
INTERCHANGE

TRAFFIC IMPACT  
STUDY

I-93 PEAK DIRECTIONAL  
VOLUMES:  
2009 WITHOUT EXIT 4A  
SENSITIVITY ANALYSIS:  
3% TRAFFIC REDUCTION

Costello, Lomasney & de Napoli, Inc  
Consulting Engineers  
Manchester, New Hampshire

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Not to Scale



FIGURE 30

DERRY - LONDONDERRY INTERCHANGE

TRAFFIC IMPACT STUDY

I-93 PEAK DIRECTIONAL VOLUMES:  
2009 WITH EXIT 4A SENSITIVITY ANALYSIS:  
3% TRAFFIC REDUCTION

Costello, Lomoney & de Noodt, Inc  
Consulting Engineers  
Manchester, New Hampshire

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