

## City of Alexandria, Virginia

## MEMORANDUM

DATE: APRIL 19, 2004

TO: THE HONORABLE MAYOR AND MEMBERS OF CITY COUNCIL

FROM: PHILIP SUNDERLAND, CITY MANAGER *PS*

SUBJECT: CONSIDERATION OF RESOLUTION REQUESTING STATE FUNDS FOR THE DUKE STREET CONGESTION RELIEF PROJECT

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**ISSUE:** Approval of resolution requesting State funds in the amount of \$732,000 for the Duke Street Congestion Relief Project. This allocation is required to utilize the Governor's Congestion Relief Program funding.

**RECOMMENDATION:** That City Council adopt the attached resolution requesting State funding of \$732,000 (Attachment), and authorize the City Manager to:

- (1) Submit an agreement for the use of \$732,000 Governor's Congestion Relief Program funding to the Virginia Department of Transportation for the Duke Street Congestion Relief Project; and
- (2) Execute all necessary documents that may be required under this program.

**DISCUSSION:** The aim of this project is to reduce congestion on Duke Street, improve existing transit service reliability, and improve the accessibility for pedestrians. The scope of this project will include the following measures along Duke Street:

- (1) Installation of optical detection equipment at various locations still to be determined during the project scoping;
- (2) Installation of accessible pedestrian signals at 19 intersections;
- (3) Traffic signal phasing optimization where appropriate;
- (4) Development of new traffic signal coordination timing plans; and
- (5) Implementation of traffic responsive signal control.

This project will blend several technologies to achieve the project's aim. Traffic congestion will be reduced by an advanced implementation of traffic responsive control. Transit service reliability will be improved by reducing the congestion on Duke Street. Pedestrian signal accessibility will be improved by the installation of audible speech pedestrian signals and physical improvements to the intersections.

The existing traffic signal coordination along Duke Street is achieved through fixed coordination timing plans which are implemented on a time-of-day schedule. There are four coordination

timing plans: a morning peak plan; an afternoon peak plan; a midday peak plan; and an off-peak plan. This is typical of most signal systems in the region. Although our coordination plans accommodate the daily shifts in traffic patterns related to commuter traffic, these four plans cover a broad spectrum of traffic patterns, which have moderate fluctuations throughout the day. Furthermore, the level of recurring congestion can change from day to day during the week, based on residual effects of incidents and congestion on nearby roadways (e.g. I-495).

The ability to adjust to these anticipated fluctuations in daily traffic patterns would enable City staff to help ensure the day-to-day consistency of traffic operations. Coupled with the optimization of traffic signal timing and phasing, the end product will be to create day-to-day consistency of optimized traffic signal operations. This will involve the creation of an additional 8 to 10 timing plans that can be implemented as certain conditions are detected. This will further involve establishing thresholds based on roadway occupancy and speed whereby these alternate coordination plans may be automatically implemented. An example of these thresholds may be if the speed in a particular direction falls below 5 miles per hour; or if a vehicle is detected to be at the same point for an extended period of time. Through improved traffic signal operation, it is also anticipated that the on-time reliability of the bus service along Duke Street will also be improved.

Accessible pedestrian signals will also be installed at the existing traffic signals along Duke Street. The installation of the audible signals will require other physical changes to the intersections such as installation of new wheelchair ramps and better placement of pedestrian buttons. The installation of the accessible pedestrian signals will promote our goal of safety for disabled persons and may help many of the disabled use the existing transit service along Duke Street.

Currently, funding has been identified but will not be available until the summer of 2004. Although some preliminary work has been done, a more detailed project scope will be developed in coordination with our private consultant once funding becomes available. This will include the collection of data for a subsequent "before" analysis, installation and testing, and a "post-implementation" analysis. While there are several steps involved in the project, this is conceptually how the project will flow. With a start date in early fall of 2004, we expect to be complete at the same time the following year.

**FISCAL IMPACT:** The total budget for the Duke Street Congestion Relief Project is \$732,000. Governor's Congestion Relief Program funding in the amount of \$732,000 is available from the State. There is no local matching requirement for this project.

**ATTACHMENT:** Resolution

**STAFF:**

Richard J. Baier, P.E., Director, T&ES  
Thomas H. Culpepper, Ph.D., P.E., Deputy Director, T&ES  
Robert Garbacz, P.E., Division Chief, Transportation, T&ES  
William Haynes, P.E., City Traffic Signal Engineer, T&ES  
Morgan Routt, Budget Analyst, OMB  
Carl Green, Division Chief, Administration, T&ES

**ATTACHMENT**

**RESOLUTION NO.**

WHEREAS, in accordance with Virginia Department of Transportation allocation procedures, it is necessary that a request by City Council resolution be made in order that the Virginia Department of Transportation fund a Duke Street Congestion Relief Project in the City of Alexandria;

NOW, THEREFORE, BE IT RESOLVED by the City Council that the City Manager is authorized, for and on behalf of the City of Alexandria, hereafter referred to as the PUBLIC BODY, to execute and file an agreement with the Department of Transportation, Commonwealth of Virginia, hereafter referred to as the DEPARTMENT, for a grant of financial assistance in the amount of \$732,000 to defray the costs borne by the PUBLIC BODY for the development of the Project and to accept from the DEPARTMENT such documents and other information as may be required for processing the agreement request. The City Council certifies that the funds shall be used in accordance with the requirements of Section 58.1-638.A.4 of the Code of Virginia.

BE IT FURTHER RESOLVED, that the PUBLIC body is not required to provide any matching funds for this project, that the records of receipts of expenditures of funds granted the PUBLIC BODY may be subject to audit by the DEPARTMENT and by the State Auditor of Public Accounts, and that funds granted to the PUBLIC BODY for defraying the expenses of the undersigned duly qualified and acting as City Clerk of the PUBLIC BODY certifies that the foregoing is a true and correct copy of a Resolution, adopted at a legally convened meeting of the City Council held on the 27<sup>th</sup> of April 2004.

ADOPTED: \_\_\_\_\_  
DATE

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WILLIAM D. EUILLE    MAYOR

ATTEST:

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JACQUELINE M. HENDERSON, CMC, CITY CLERK

RESOLUTION NO. 2103

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ADOPTED: April 27, 2004



WILLIAM D. EULLE

MAYOR

ATTEST:



Jacqueline M. Henderson, CMC City Clerk