

# NW 26<sup>th</sup> Street Roadway Improvement Project

## Purpose and Need Statement

### Proposed Action

The proposed action provides for road improvements or construction for a continuous transportation corridor throughout the Des Moines metropolitan area. The corridor is proposed to extend between IA 415 to Martin Luther King, Jr. Parkway (MLK).

### Purpose of the Proposed Action

The purpose of proposed action is to safely and efficiently accommodate existing and projected local and regional traffic between IA 415/Oralabor Road and MLK Parkway.

### Need for the Proposed Action

The need for the proposed improvements is based on a combination of factors related to improving transportation service and supporting existing and planned land development. Specifically, the proposed action is intended to address the following needs:

- Discontinuous and inadequate north-south arterial roadway network
- Existing and projected local street system traffic congestion
- Regional transportation system access deficiency to support the existing roadway network and accommodate planned metro area growth
- Local street network traffic safety concerns
- Out-of-distance travel associated with I-35/80 interchange spacing

### Discontinuous and Inadequate North-South Arterial Roadway Network

The existing north-south arterial roadway network in the study area is discontinuous and does not accommodate local and regional<sup>1</sup> trips efficiently. A more continuous north-south arterial roadway network would increase accessibility to downtown Des Moines and the Des Moines International Airport, as well as reduce regional trip making currently made on local streets, and support planned regional growth.

Within the study area, U.S. 6/Euclid Avenue and IA 415 are the major east-west principal arterial<sup>2</sup> roadways serving north Des Moines, Ankeny, Saylorville, and unincorporated Polk County. These roads are logically linked by the NW 2<sup>nd</sup> Avenue and Merle Hay Road principal arterial roadways and the NW 6<sup>th</sup> Avenue and Beaver Avenue minor arterial roadways between. The M.L. King Parkway corridor is an important north-south arterial in Des Moines, but does not extend north of Euclid Avenue.

NW 26<sup>th</sup> Street and the M.L. King, Jr. Parkway and Fleur Drive corridor are vital local and regional north-south transportation routes through the Des Moines metropolitan area. The M.L. King, Jr. and Fleur corridor provides direct access to the heart of the metropolitan area, including the Des Moines central business district (CBD) and the Des Moines International Airport. Regional transportation service on the M.L. King and Fleur corridor is augmented with direct access from Iowa 5 (south of the metropolitan area) and Interstate-235 (within the CBD). The M.L. King corridor's regional traffic service ends south of I-35/80 at Euclid Avenue. An improvised connector route of 12<sup>th</sup> Street and Morningstar Drive currently provides for the network gap in service for local and non-Interstate

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<sup>1</sup> Within this document, the "local" area is defined as Des Moines and its contiguous suburbs. The "regional" area is defined as non-contiguous metro area suburbs and locations outside the Des Moines metropolitan area.

<sup>2</sup> Roadway functional classification information as listed in the DMAMPO LRTP.

regional traffic from north of Euclid Avenue onto NW 26<sup>th</sup> Street traveling to Ankeny, Polk City, and further north. The existing travel patterns used demonstrate that there is little north-south roadway continuity in the Des Moines metropolitan area.

### **Existing and Projected Local Street System Traffic Congestion**

There is no continuous north-south roadway between the east-west arterial roadways of U.S. 6 and IA 415. To compensate, traffic in the immediate area currently travels on NW 26<sup>th</sup> Street south to Morningstar Drive, which becomes 12<sup>th</sup> Street. From a city-wide and regional perspective, the lack of north-south roadway continuity results in traffic rerouting to use IA 28/Merle Hay Road, NW Beaver Drive, NW 26<sup>th</sup> Street/Morningstar Drive/12<sup>th</sup> Street, NW 6<sup>th</sup> Drive, or IA 415/NW 2<sup>nd</sup> Avenue. Existing traffic count information from the Iowa DOT and traffic projections from the Des Moines Area Metropolitan Planning Organization's (DMAMPO) reflect increasing traffic volumes on these roads commonly used as regional routes in this area. Merle Hay Road and 2<sup>nd</sup> Avenue have access to I-35/80 and are major arterial roadways designed to be used for regional traffic. However, NW Beaver, NW 26<sup>th</sup>/Morningstar/12<sup>th</sup>, and NW 6<sup>th</sup> do not have access to I-35/80 and are minor arterial or collector streets, in predominately residential areas that were not designed to be used for regional traffic. The 6<sup>th</sup> Avenue and 12<sup>th</sup> Street corridors have on-street parking and little or no available area for roadway expansion.

Of these roadways, IA 28/Merle Hay Road had 2004 traffic volumes ranging as high as 35,550 vehicles per day, which is greater than its roadway capacity of 34,000 vpd (as defined by the DMAMPO). In other words, IA 28/Merle Hay Road is reaching the point where it cannot reasonably accommodate additional traffic and provide adequate or safe traffic operations. The 6<sup>th</sup> Avenue and 12<sup>th</sup> Street roadways are not designed to carry large traffic volumes and are projected to approach or exceed their respective capacities in the No Build scenario.

### **Regional Transportation System Access Deficiency to Support the Existing Roadway Network and Accommodate Planned Metro Area Growth**

The DMAMPO Year 2030 Long Range Transportation Plan (LRTP) provides population, employment, and traffic projections for the metropolitan area. The LRTP divides the metropolitan area to identify concentrated population or employment growth areas and associated potential traffic pattern or volume changes. Year 2000-2030 LRTP employment projections show the largest concentration of jobs in the Des Moines CBD, followed by West Des Moines. In 2000, Des Moines accounted for nearly 80% of metro employment; it is projected that by the year 2030, Des Moines will account for 64% of metro area employment due to increased development in suburban areas. Increased suburban development is also projected to redistribute household settlement patterns. In 2000, approximately 70% of the metro area population was located within the City of Des Moines. The DMAMPO projects that by the year 2030, although Des Moines will have the highest population of the metro area cities, the suburban cities will hold the majority of metro area population (54%). The LRTP projects large growth in the Ankeny and Polk City areas, where both population and employment are expected to more than double by the year 2030. The regional and local transportation system should accommodate these increasing populations and changes in geographical distribution and traffic volumes in the metro area.

The DMAMPO developed the Regional Freeway System Study (RFSS) to identify needed transportation system improvements, notably Interstate interchanges, to accommodate projected metro area growth based on the LRTP. NW 26<sup>th</sup> Street is the only interchange location recommended by the DMAMPO between IA 28/Merle Hay Road and IA 415/NW 2<sup>nd</sup> Avenue.

### **Local Street Network Traffic Safety Concerns**

Many roadways and intersections in the study area exhibit crash rates higher than the statewide average crash rate based on 2003-2007 Iowa DOT crash analysis of the study area. Study area corridors with higher than average crash rates include portions of NW 2<sup>nd</sup> Avenue, 6<sup>th</sup> Avenue, NW 26<sup>th</sup> Street, M.L. King, Jr. Parkway, Euclid Avenue, Douglas Avenue, Lower Beaver Road, 30<sup>th</sup> Street, Beaver Avenue, Merle Hay Road, and Cornell Avenue. Portions of the 2<sup>nd</sup> Avenue, M.L. King, Jr. Parkway, 30<sup>th</sup> Street, Beaver Avenue, and Cornell Avenue corridors had crash rates twice the statewide average during this time period. Segments of the 6<sup>th</sup> Avenue, 12<sup>th</sup> Street, Euclid Avenue, Douglas Avenue, and Merle Hay Road corridors had crash rates more than four times the statewide average.

As future traffic volumes increase, crash exposure may increase with no changes to the roadway network. Several of the currently used regional transportation routes are in residential areas and have on-street parking, a potential safety issue. Currently, traffic on 12<sup>th</sup> Street must yield to oncoming cars at certain locations on the corridor due to parked cars. The 6<sup>th</sup> Avenue corridor, although wider than 12<sup>th</sup> Street, allows on-street parking, but the street has no auxiliary lanes to complement its mixed land uses, including churches, a school, and a commercial node. Traffic reductions on these residential streets are needed to potentially reduce overall corridor crash exposure.

### **Out-of-Distance Travel Associated with I-35/80 Interchange Spacing**

The Interstate-35/80 corridor between the Northeast Mixmaster (East I-35/I-80/I-235 systems interchange) and IA 141 has regular interchange spacing except in the vicinity of NW 26<sup>th</sup> Street. From the east, the Northeast Mixmaster is approximately 1.5 miles from the NE 14<sup>th</sup> Street/U.S. 69 interchange. The IA 415/2<sup>nd</sup> Avenue interchange is approximately 1 mile west of the NE 14<sup>th</sup> Street interchange. There is a four mile uninterrupted span between 2<sup>nd</sup> Avenue and Merle Hay Road, with overpasses at NW 26<sup>th</sup> Street and NW Beaver Drive, and an underpass at NW 6<sup>th</sup> Drive. The one to two-mile interchange spacing resumes at Merle Hay Road; the Merle Hay Road, NW 86<sup>th</sup> Street, and IA 141 interchanges are each approximately 2 miles apart.

Out-of-distance travel currently occurs for some traffic that accesses I-35/80 or Des Moines via IA 415/2<sup>nd</sup> Avenue or IA 28/Merle Hay Road. NW 26<sup>th</sup> Street is equidistant by two miles from either Merle Hay Road or 2<sup>nd</sup> Avenue; however, traffic near NW 26<sup>th</sup> Street must travel to either the 2<sup>nd</sup> Avenue or Merle Hay Road interchanges for Interstate access. This represents a longer travel distance for Interstate access than provided elsewhere in the metro area.