



### CHAPTER 8: I-71 ACCESS IMPROVEMNETS

I-71 Access Improvements were a separate and distinct part of the overall Uptown Transportation Study. This Part B work is fully documented in the *Planning Study Report* dated November 2006. Part B is specifically focused on evaluating access between the Uptown area and I-71 and making recommendations for potential access improvements. The project follows ODOT's 14-step Major Project Development Process (PDP). Steps 1 through 4 of PDP have been completed through the planning activities conducted as part of this project.

The IP developed the following purpose and need statement for the Part B I-71 Access Improvement Study.

**“The purpose of the I-71 Uptown Study is to develop a set of feasible alternatives to improve access between I-71 and the Uptown area of Cincinnati that reduce travel times, reduce complexity of wayfinding, and promote economic vitality.”**

A thorough evaluation of existing conditions was conducted through data collection and field studies including traffic volume counts, recent crash data, environmental conditions, cultural resources, environmental justice communities, wayfinding audit, and physical conditions of the existing transportation infrastructure.

This information is fully documented in the *Uptown Transportation Study-Part B, I-71 Access Improvement Study: Red Flag Summary Report (August 2006)*, and the *Uptown Transportation Study-Part B, I-71 Access Improvement Study: Existing and Future Conditions Report (July 2006)*.

The study area is expected to experience a moderate population decline and a slight increase in employment overall. The dynamics of travel demand and transient populations are influenced significantly by the presence of the University of Cincinnati and the hospitals.

As would be expected in a highly urbanized area, the study area includes several environmental justice communities, and red flags primarily associated with cultural resources and hazardous materials. Ecological and recreational resources are not a major factor in the study area.

The I-71 mainline generally operates at an acceptable level of service today and is forecast to operate at an acceptable level of service in the future with the exception of the mainline segments immediately north of the existing partial interchange located at WH Taft Road and McMillan Street. Congestion is significant at this interchange as well as along portions of the adjoining arterial network. This congestion is expected to worsen in the 2030 plan year. In general, the existing at-grade intersections within the Part B study area are operating at an acceptable level of service.

An analysis of recent crash data indicates that the accident rates on I-71 are slightly better than average for an urban interstate. Accident rates are higher on the arterial network with US-42 (Reading Road) experiencing accident rates higher than the citywide average at some locations.

Wayfinding to and from I-71 to the Uptown area is complex. Interstate 71 exhibits a lack of uniformity in interchange configurations. Drivers from I-71 must utilize two different



interchanges depending on direction. East-west access is currently provided by the one-way couplet of WH Taft Road and McMillan Street. McMillan Street is grade separated from Reading Road and Burnet Avenue, the predominate north-south corridor in the vicinity. The one-way operation and grade separation pose challenges accessing the interstate from locations east of I-71 and north of WH Taft Road.

For the institutions and neighborhood business districts to remain competitive on a regional level, interstate access must be perceived to be at least adequate when compared to suburban locations with higher visibility and more direct egress. The lack of direct full service interstate access to serve the study area is viewed as a limiting factor on the scale and desirability of potential development.

In addition to a no-build alternative and a transportation system management (TSM) alternative, which would modify the existing WH Taft Road/McMillan Street (Taft/McMillan) ramps to accommodate forecast peak hour volumes, a comprehensive array of over 40 build alternatives for access improvements on I-71 were developed in coordination with the IP. These alternatives provided full interstate access at the existing partial interchange at Taft/McMillan and/or at ML King Drive. These alternatives were reviewed with the IP over several meetings during the spring and summer of 2006. The original array was gradually reduced to six alternatives to be advanced for more detailed evaluation. The majority of the original array of alternatives was eliminated due to geometric or operational design exceptions. Some alternatives, while technically feasible, did not address the project's adopted purpose and need statement or were felt to have disproportionately high environmental impacts and costs.

The six alternatives that were evaluated in greater detail are as follows.

**BR-1-** This alternative would provide full access at both Taft/McMillan and at ML King Drive. The access ramps located between Taft/McMillan and at ML King Drive would be braided, or separated horizontally and vertically so that there would not be a weave necessary on the mainline between the two interchanges.

**S-2a and S-3-** These two alternatives would provide partial access at Taft/McMillan (to and from the south) as well as ML King Drive (to and from the north). The two access points would be linked by limited access service roads located parallel to the I-71 mainline. For S-2a, the service road would be bidirectional and located west of I-71. For S-3 there would be a pair of one-way service roads located to the east and west of I-71.

**MLK-2 and MLK-6a** - These two alternatives are both new full access interchanges at ML King Drive with both entrance and exit ramps located north of ML King Drive. They would work in conjunction with a modified interchange at Taft/McMillan or as a stand alone access point with the existing Taft/McMillan access ramps removed. MLK-2 is essentially a folded diamond design with two new signalized intersections on ML King Drive to control entering and exiting traffic at the ramp terminals. MLK-6a provides for direct ramps from ML King Drive entering I-71 and routes exiting traffic through a single signalized intersection on ML King Drive.

**TM-7** - This alternative is representative of modifications to the existing Taft/McMillan Interchange, which would provide for full access to the north and south. This option would not



provide additional access at other locations. WH Taft Road and McMillan Street would be linked with new local access or modified such that all movements could take place from either direction on the one-way pair. The existing exit from southbound I-71 to Reading/Gilbert would need to be modified to accommodate any new southbound entrance access from Taft/McMillan.

These six alternatives were evaluated with a matrix of factors based on improvements to travel time and wayfinding, construction and right of way cost, as well as environmental impacts. Based on the project evaluation matrix, all alternatives were comparable in their costs, benefits, and impacts. Based on comments from ODOT, the MLK-2 and MLK-6a alternatives were determined to not be feasible when combined with an interchange at Taft/McMillan due to insufficient interchange spacing.

The IP has concurred with the recommendation that all six alternatives be advanced through Steps 5-7 of the ODOT PDP to arrive at a preferred alternative and to produce the associated environmental documentation. The two ML King Drive alternatives would be considered as stand alone interchanges in future project development.

Furthermore, it is recommended that the southbound entrance ramp from Montgomery Road to I-71 southbound be reconstructed to eliminate its current circuitous alignment. It is also recommended that a study of the I-71 Reading Road interchange be undertaken to evaluate the feasibility of eliminating the weaving movement from I-471 to the Reading Road exit that occurs at this location.

The I-71 mainline immediately north of Taft/McMillan is forecast to operate at a substandard level of service in 2030 indicating the potential need for an additional lane in between Taft/McMillan and the Dana Avenue Interchange.

All of these recommendations have been made in conjunction with the Uptown Study Part A recommendations developed to improve the overall capacity and operation of the arterial network.

Secondary recommendations include the following:

- City of Cincinnati review of current zoning classifications for parcels within the study area to better take advantage of the improved interstate access by allowing for higher density land uses
- Preservation of publicly owned rights-of-way within the study area
- An audit of existing guide and regulatory signs on I-71 within the study area
- Coordination with planned utility improvements within the study area
- Accommodation of potential transit corridor if access modifications are implemented
- Conduct an Economic Impact Analysis to provide information on how improved interstate access may influence economic conditions within the study area.

The schedule for the access improvements has been estimated assuming that the scope and potential impacts of the project would require preparation of an Environmental Impact Statement

(EIS). The schedule assumes no significant delays in the availability of funds for design and construction. Based on these assumptions, it is expected that construction would commence in approximately 2016.

Responsibility for implementation of these recommendations rests primarily with ODOT and the City of Cincinnati. The City is certified with ODOT as fully capable to meet the requirements to administer federal aid projects as a Local Public Agency (LPA). If the City of Cincinnati administers continued project development for the conceptual alternatives to improve I-71 access at Taft/McMillan and/or ML King Drive, an LPA agreement will need to be executed between the City and ODOT specifying respective roles, funding commitments, scope of work, and administrative duties.

Additionally, the major private and public institutions located in Uptown that will be primary benefactors of improved access should be expected to play a supportive, if not direct, role in demonstrating need, garnering public consensus, providing rights-of-way, conducting economic impact analysis, and securing funding for both design and construction.

**Table 8-1: Elements of I-71 Access Improvement Recommendations**

Recommendation	Implementation Agency	Estimated Cost
Advance study of modified access at Taft/McMillan and/or new access at Martin Luther King Jr. Drive through ODOT PDP Steps 5-7	City of Cincinnati and Uptown Stakeholders	\$3,500,000
Study potential modifications to Gilbert Ave. /Reading Road Interchange	ODOT	\$600,000
Provide additional mainline capacity (5 lane cross-section) between Taft and Dana Entrance Southbound and McMillan Duck Creek exit Northbound ) *	ODOT	\$8,500,000
Re-align Ramp from Montgomery Rd. to Southbound I-71 *	ODOT	\$3,500,000
Traffic Study of Martin Luther King Drive **	City of Cincinnati	\$1,500,000
Land Use Study of Zoning Classifications	City of Cincinnati and Uptown Stakeholders	\$150,000
Economic Impact Analysis	Uptown Stakeholders and City of Cincinnati	\$250,000
I-71 Sign Audit	ODOT	\$50,000
Preserve Public Rights of Way	City of Cincinnati, ODOT and Uptown Stakeholders	NA
Utility Coordination	City of Cincinnati and Uptown Stakeholders	NA
Transit - Preserve right-of-way for future transit corridor	City of Cincinnati, ODOT and SORTA	TBD

Unless otherwise noted estimated costs are 2006 dollars.

\* Conceptual Cost estimate assuming no right of way acquisition or impact to overpass structures.

\*\* If conducted as part of PDP Steps 5-7 for new access at MLK costs associated with this analysis would be partially offset by study of access modifications on I-71. Cost shown are for an independent analysis of MLK Corridor.

At this time, no funding has been committed for implementation of any of the recommendations of Part B Interstate 71 Access Improvement Study.



## Uptown Transportation Study

### Part A: Uptown Transportation Plan

The individual implementation partners must answer these critical questions when seeking funds to carry out the aforementioned recommendations.

- What funds are realistically available?
- What timeframe restrictions apply?
- What approval process is required?
- What other restrictions apply?

Both ODOT and the City of Cincinnati are experiencing growth in documented needs for funding capital expenditures during the next 5 to 10 years with declining capacity to fully meet those needs. It is estimated that the total costs associated with the recommended access improvements will range from \$50 to \$100 million. Implementation of the recommendations will require a mix of public funding from federal, state, and municipal sources as well as from the private and nongovernmental sectors.