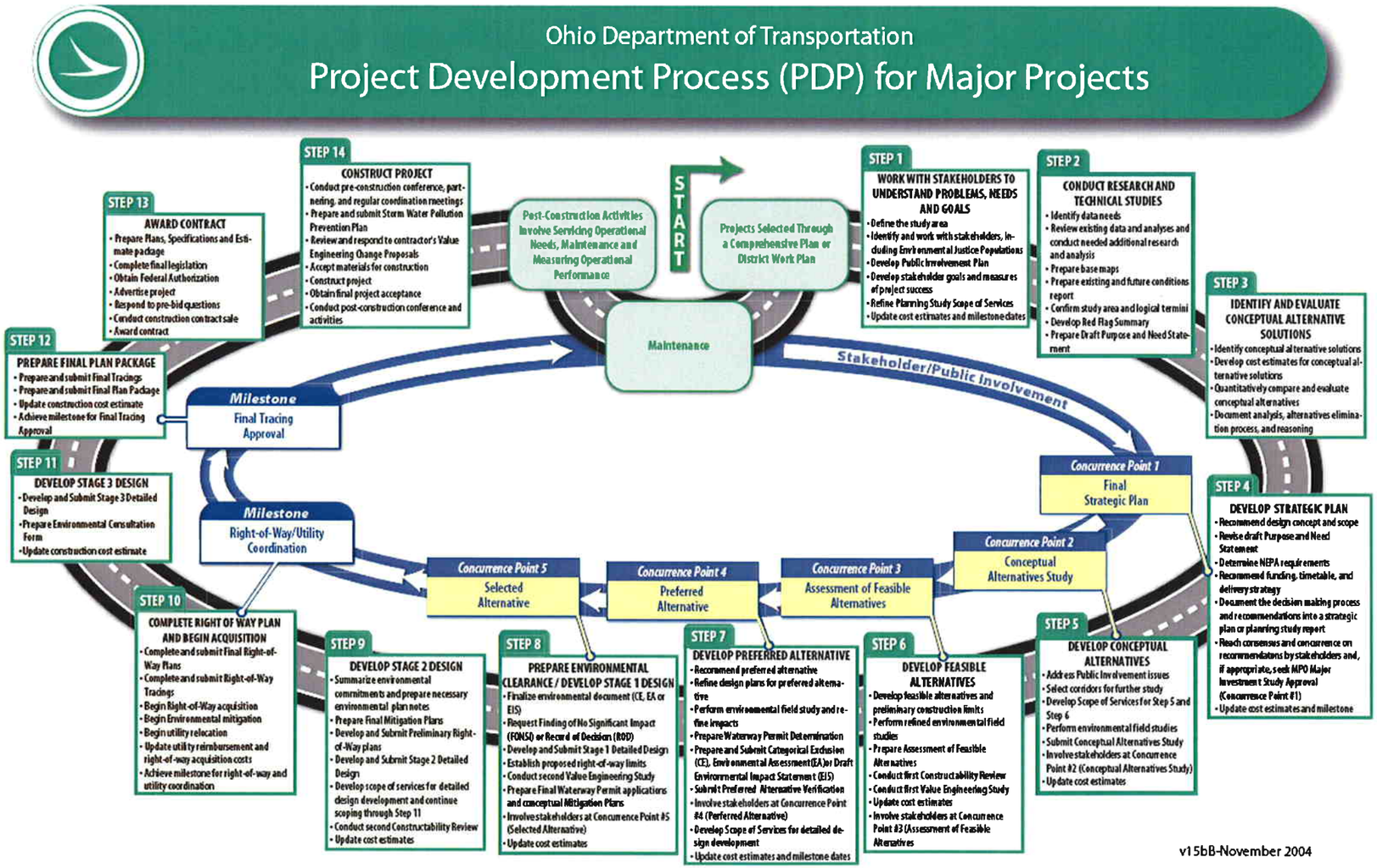
## 1.0 Introduction

The I-75 Mill Creek Expressway project is currently in Step 6 of ODOT's Project Development Process for Major Projects (See Figure 1-1). The Assessment of Feasible Alternatives (AFA) is a combined design and environmental document produced at the end of Step 6, based upon the information provided in the *Planning Study Report* (Step 4), *Conceptual Alternatives Study* (Step 5), and environmental studies and engineering information developed throughout Step 6. The ultimate purpose of the AFA is to provide the basis for recommending a preferred alternative that is presented to the stakeholders, agencies, and the public in Step 7.

At this point in the Project Development Process, the design of feasible alternatives is based upon the guidelines in ODOT's Location and Design Manual, Volume 3, Section 1400. Evaluation of potential impacts is based upon studies identified in ODOT's PDP manual and technical guidance documents. For this project, these studies included: Phase I and II History/Architecture Investigations, Ecological Survey, Phase I Environmental Site Assessment Report, social and economic information, preliminary noise analysis, along with the stakeholder and public comments from public involvement meetings held throughout the process.

**Figure 1-1: Project Development Process Road Map**



## 1.1 Purpose and Need

A Purpose and Need Document was prepared for the project and approved April 22, 2005. The findings of the Purpose and Need are summarized below to provide the reader with the context within which the alternatives were developed.

### 1.1.1 Statement of Purpose

The purpose of the project is to improve traffic flow and enhance safety while minimizing impacts to adjacent properties along I-75 from the Western Hills Viaduct interchange on the south to the Paddock Road interchange on the north.

### 1.1.2 Project Background

In 2000, the Ohio-Kentucky-Indiana Regional Council of Governments (OKI) and the Miami Valley Regional Planning Commission (MVRPC) cooperated on a regional multi-modal transportation plan, the North South Transportation Initiative (NSTI). The primary focus of the NSTI was to determine how to improve the safety, efficiency and reliability of transportation networks within Southwest Ohio, Northern Kentucky and Southeast Indiana. Analysis of the existing and future travel corridors was combined with input from stakeholders and the public. As a result, several projects were established to address the original focus of the NSTI. One of the most important corridors established by the public and stakeholders was Interstate 75. The I-75 Mill Creek Expressway study builds upon this major investment study and refines the recommendations within this portion of the I-75 corridor.

### 1.1.3 Regional Setting/Study Area

The proposed project is located in Hamilton County, Ohio, within the Cincinnati metro area. Hamilton County is in the southwest corner of Ohio. The Ohio River and the State of Kentucky border the county to the south and the State of Indiana to the west. The City of Cincinnati and a large majority of its metro-area are within Hamilton County. The land cover is predominantly the Mill Creek Valley with hills bordering on either side entirely within an urban setting. The I-75 corridor passes north-south through Hamilton County and the City of Cincinnati, providing a connection between the states of Kentucky and Ohio.

The project area spans from the Western Hills Viaduct interchange on the south to the Paddock Road interchange on the north. This area includes the Hopple Street, I-74, Mitchell Avenue, Norwood Lateral (SR 562), Towne Street,

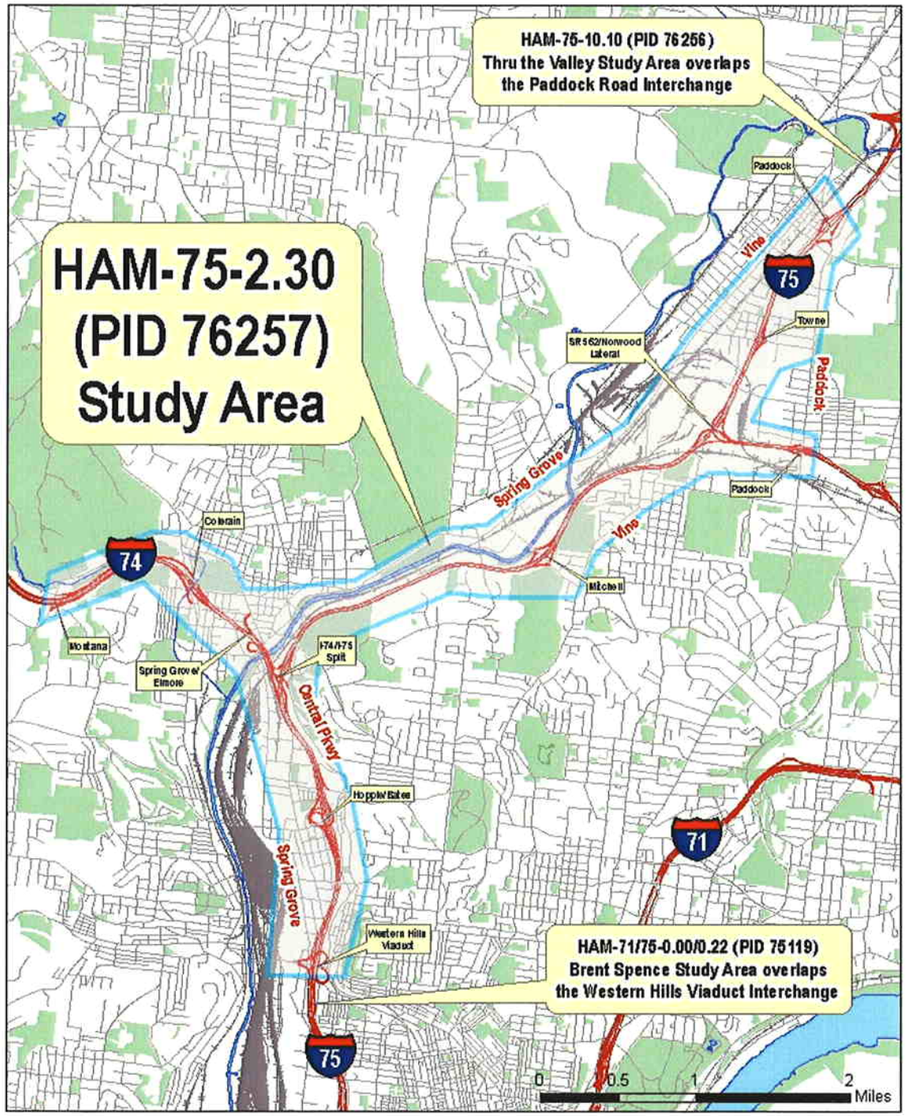



**Figure 1-2: I-75 Mill Creek Expressway Project Study Area**

and Paddock Road interchanges. The study area also includes Norwood Lateral (SR 562) from the I-75 interchange to the Paddock Road interchange along with I-74 from the I-75 interchange to the Montana Interchange including the interchange at Colerain, to encompass any possible effects to those areas as well.

Municipalities within the study area include the City of Cincinnati, the City of St. Bernard, and the Village of Elmwood Place. The project area is highly developed with urban land uses, including residential, commercial, and industrial properties.

### 1.1.4 Regional Mobility

The NSTI's original preferred program of projects was divided into three classifications: Corridor Capacity Alternatives, Systems Modification Alternatives, and Access Modification Alternatives. Listed below are the NSTI projects that are directly related to the I-75 Mill Creek Expressway study.

*Corridor Capacity – 4-lane Continuity with Auxiliary Lanes.* The NSTI used information from previous travel demand model runs, including Average Daily Travel (ADT), per-lane capacity and number of lanes, to create a planning-level study to determine the approximate number of through lanes necessary on the interstate mainline. Minimally, this alternative provides 4-lane continuity along the I-75 mainline with possible additional lanes if necessary. Within the I-75 Mill Creek Expressway study area; this applies to the area north of the I-74 interchange through to the northern extents of the study area (mile marker 10.10, north of the Paddock Road Interchange).

The NSTI study determined that the I-75 mainline from I-74 to SR 126 Ronald Reagan Cross County Highway (within the HAM-75-10.10 Thru the Valley Project) requires at least 6 lanes to receive a level of service (LOS) D. However, the feasibility of additional lanes (beyond 4-lanes) includes numerous factors beyond simply achieving an acceptable level of service.

*System Modification - I-74/75 Interchange, Hopple Street Interchange, Mitchell Interchange and Local improvements.* This alternative includes improvements to the I-74 and I-75 interchange along with the nearest southern interchange, Hopple Street, and the nearest northern interchange, Mitchell Avenue. The project, adopted as the number one priority system modification in the entire region, appears in OKI's 2030 Transportation Plan (# 636).

*Access Modifications.* The final element of the NSTI was the evaluation of access points along the interstate mainlines. Based upon identified need and possible funding sources, modifications were put into three categories.

- Category I Project: A high priority project to be completed in 0 to 15 years.
- Category II Project: A medium priority project to be completed in 15 to 25 years.
- Category III Project: A low priority project to be completed beyond a 25-year threshold.

The following access modification projects, along with their categorization, are within the I-75 Mill Creek Expressway study area:

**Table 1-1: Access Modification Proiects**

| Location | Category | Identification Location | Dollars (millions) |
|---|---|---|---|
| Norwood Lateral Interchange | Category I | OKI's 2030 Transportation Plan (#635) | $18.1 |
| Towne Street Interchange | Category I | OKI's 2030 Transportation Plan (#633) | $12.6 |
| Paddock Road Interchange | Category I | Not specifically identified, but included with OKI's 2030 Transportation Plan (#639) | Not Listed |
| Western Hills Viaduct | Category II | OKI's 2030 Transportation Plan (#698) | $13.3 |

*Source: North South Transportation Initiative (NSTI), 2000.*

## 1.1.5 Related Projects

*Brent Spence Bridge Corridor (HAM-71/75-0.00/0.22, PID 75119)*

The KYTC and ODOT are jointly planning for the replacement or widening of the Brent Spence Bridge, which conveys I-75 over the Ohio River between Kentucky and Ohio. The southern terminus for the Brent Spence Bridge Corridor project (BSB) was identified in coordination with the KYTC based upon the needed lanes over the bridge as well as plans for improvements to I-75 in Kentucky. The southern terminus is the 12th Street Exit in Covington. Therefore, the study area extends to the next interchange at Kyle's Lane.

The northern terminus of this project is the I-75 interchange with Western Hills Viaduct. Western Hills Viaduct is the first interchange north of the downtown area where connectivity is provided to a primary east-west arterial. South of this interchange, all of the connections are provided to local streets or to arterials that connect into the downtown area.

This project is approximately 2.5 miles in length through Hamilton County, Ohio. This portion of I-75 traverses the urban core of Cincinnati, ultimately joining with I-71 before crossing the Ohio River via the Brent Spence Bridge. This area is typical of a downtown freeway, with numerous closely spaced ramps. Connections are made to US 50, 5th Street, 6th Street, 7th and 8th Streets, 9th Street, Freeman Avenue, Ezzard Charles Drive, and Findlay Street, all within less than two miles.

This area is central city in character, with buildings located in close proximity to the right-of-way among a maze of ramp connections. According to 2000 census data, this area possesses a much higher population density than areas to the north, includes more persons below poverty level, and more households with no vehicle available. These are factors that are important in development of alternatives and consideration of impacts that are unique compared to adjacent sections of I-75.

This section of I-75 is currently four-lanes in each direction. Construction of one additional through lane is anticipated. The key issue in this section is gaining capacity and safety improvements through reconfigurations of access and auxiliary lanes. Therefore, these access and safety improvements are not expected to add to or influence congestion in adjacent sections and are constructible even if no additional improvements are made elsewhere.

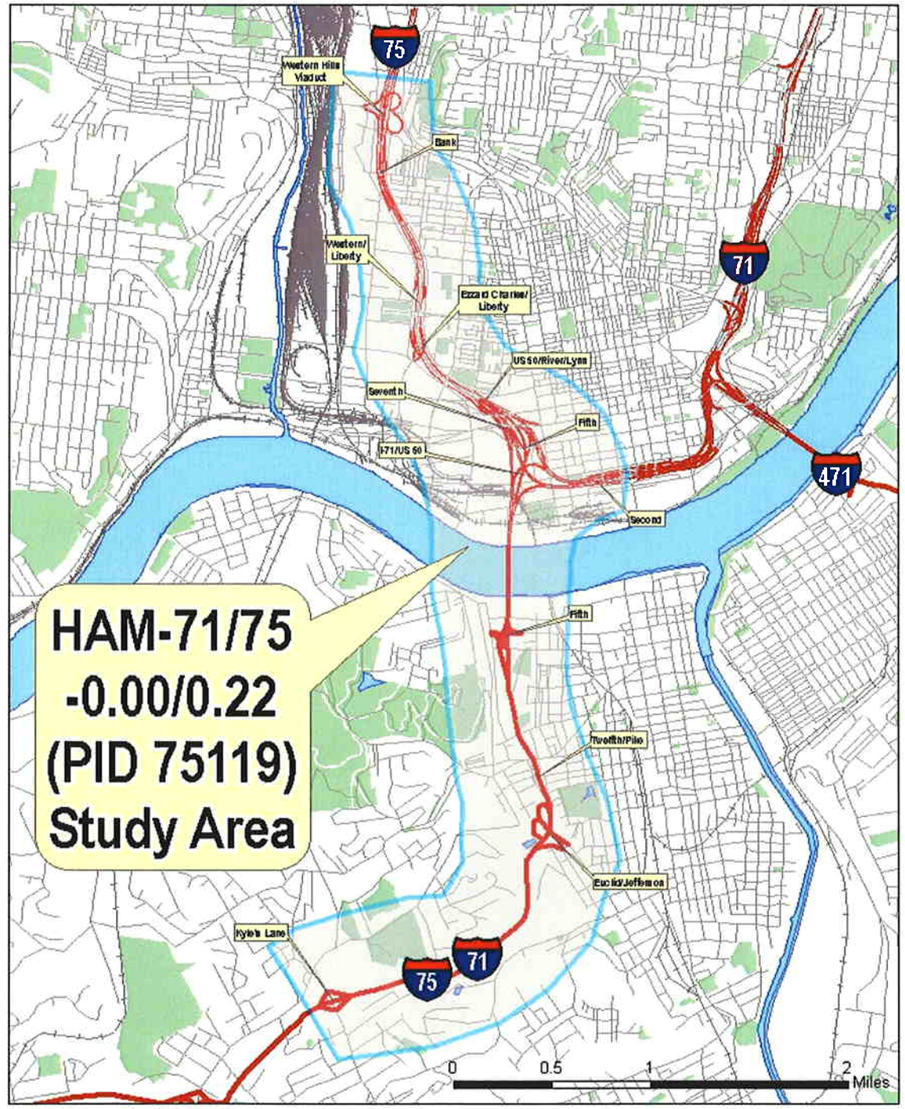



**Figure 1-3: Brent Spence Bridge Corridor Study Area**