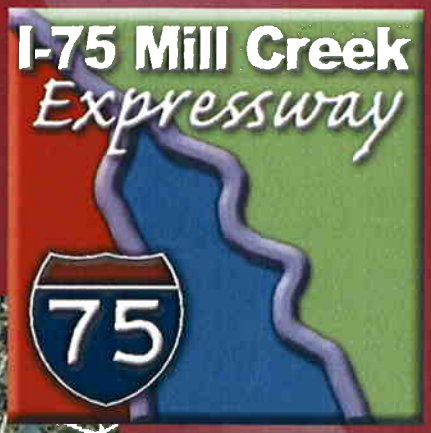
Northside Study
HAM-75-2.30



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Introduction

As part of the I-75 Mill Creek Expressway project (HAM-75-2.30, PID 76257), existing local access ramps forming partial interchanges within the I-74/I-75 system interchange are proposed to be closed and removed. The subject ramps include the Elmore Street exit, Spring Grove Avenue entrance, and Central Parkway I-74 exit and I-75 entrance ramps. The closures are necessary due to several factors among them: physical conflict with new ramp construction, lack of available space to relocate affected service ramps, low traffic utilization and prohibition of partial interchanges. Alternative Interstate access to the surrounding communities will be available at the improved full movement Hopple Street/I-75/I-74 and improved full movement Colerain Avenue/Beekman Street/I-74 interchanges.

Many Northside residents, business owners, and employees at local businesses have communicated concerns over impacts to their community resulting from reduced Interstate access. In response, the City of Cincinnati and the Ohio Department of Transportation commissioned this study to consider the effects of access changes proposed with this project on routes identified as serving redirected traffic and to recommend potential improvements to those routes deemed adversely impacted.

This report documents intersection capacity analyses, travel time assessments, and crash evaluations conducted to forecast future impacts to existing travel routes. For the purpose of providing comparisons of future year 2030 no build versus build conditions, this study defines the Baseline condition as the proposed freeway improvements with all existing subject local access ramps open, and the Build condition as the proposed freeway improvements with the subject local access ramps closed.

Northside Study Area

The area of Cincinnati referred to as Northside was originally settled in the late 1790's but did not develop into a population center until the 1820's with the completion of the Miami-Erie Canal and, later, the CH&D railroad. The town of Cumminsville grew into a bedroom community of Cincinnati which was ultimately annexed by the city of Cincinnati in 1873. By the 1920's, the community had become a busy commercial district of Cincinnati referred to as Knowlton's Corner and contained shops, merchants and manufacturing. The post-World War II industrial boom and completion of the Interstate resulted in fewer people living near to their workplaces causing a decline in housing and lower property values. By the mid-1960's, Northside industry had largely left the area. Beginning in the mid-1980's, population in-fill has occurred attracted to the lower home prices and central location in the Cincinnati Metro area.[1]

The general character of the community today is single and multi-family housing with a central business district along Hamilton Avenue between Spring Grove and Chase Avenues. The 2000 population totaled approximately 9,400 with a primary demographic of Caucasian (58%) and African-American (39%). The community is bounded by I-74 and the Mill Creek to the south, Spring Grove Cemetery east, Mount Airy Forest west and hilly terrain to the north. An asymmetric street grid exists around principal through arterials of Hamilton Avenue (north-south), William P. Dooley Bypass/Spring Grove Avenue (east-west), and Colerain Avenue (north-south). Within the local street network are primary local streets of Blue Rock Street (east-west), Chase Avenue (east-west) and Virginia Avenue (north-south).

As is typical of many older urban neighborhoods, streets are narrow with intersections closely spaced. Parking is generally on-street with sidewalks, and streets are curbed. Numerous small businesses line Hamilton Avenue including restaurants, clothing boutiques and taverns. A large mixed-use redevelopment project is currently planned for the old American Can plant at Hamilton Avenue and Blue Rock Street which will contain multi-unit housing and retail businesses. South of Blue Rock Street to the Mill Creek is a number of light manufacturing and other small industrial uses.

[1] From *The History of Northside Knowlton's Corner and Hamilton Ave.*, www.northside.net

Although not a part of Northside, the area east of I-75 along Central Parkway which includes the Cincinnati State Technical and Community College campus is impacted by the closure of the Central Parkway ramps. The Central Parkway entrance ramp does provide added access to I-75 northbound for Northside.

Study Methodology

This study considers the impact on selected intersections within the study area of future freeway improvements in combination with the closure of subject local access ramps. Intersection locations were selected based on the relative importance of routes and with local agency input. The primary routes through the Northside were established as 1) Virginia Avenue, 2) Colerain Avenue, 3) William P. Dooley Bypass, 4) Spring Grove Avenue and 5) Hamilton Avenue. Focus intersections were then selected to investigate potential impacts and are listed in **Table 1** below.

This study is concerned with three areas of investigation: 1) intersection capacity, 2) travel times, and 3) intersection crash history. Intersection capacity is used to establish the level of service (LOS) for the Baseline and Build conditions. Travel times were obtained in the field for each of the affected routes. The purpose of this evaluation is to provide a relative comparison of trip duration between the Baseline and Build conditions assuming recommended intersection capacity improvements have been made and LOS will not be degraded by redistributed traffic volumes. Intersection crash history is provided to indicate whether a crash problem exists today that could be worsened with increased redistributed traffic and to identify corrective safety measures if necessary. To make this determination, crashes per million vehicles averaged over the last three years were compiled for each focus intersection and compared to the statewide average for similar intersections.

Intersection Capacities

With the proposed ramp closures, Northside motorists will be required to seek out new routes to access I-74/I-75. The redistribution of Interstate-generated trips through the Northside community raised concerns that some local street intersections may operate worse than with the Baseline condition due to changes in travel patterns. As a result, the Ohio Department of Transportation (ODOT) and City of Cincinnati requested that Transystems study and analyze sixteen (16) focus intersections within this area. The focus intersections are listed in Table 1 below, and **Appendix A, Figure 1** provides a study area map showing focus intersection locations.

Table 1: Intersection Number and Location

• (1) Colerain Avenue & Hoffner Street	• (9) Mitchell Avenue & Kenard Avenue
• (2) Colerain Avenue & Blue Rock Street	• (10) Colerain Avenue & West Fork/Virginia Avenue
• (3) Blue Rock Street & Hamilton Avenue	• (11) Colerain Avenue & Powers Street
• (4) Spring Grove Avenue & Blue Rock Street	• (12) Colerain Avenue & Elmore Street
• (5) Spring Grove Avenue & William P. Dooley Bypass	• (13) Colerain Avenue & William P. Dooley Bypass
• (6) Hamilton Avenue & Chase Avenue	• (14) Ludlow Avenue & Central Parkway
• (7) Virginia Avenue & Chase Avenue	• (15) William P. Dooley Bypass & Elmore Street
• (8) Spring Grove Avenue & Mitchell Avenue	• (16) Hoffner Street & Spring Grove Avenue

The study utilizes design year 2030 volume data at each focus intersection to determine the level of service (LOS) and volume to capacity ratios (v/c) for each intersection traffic movement for the Baseline and Build conditions based on existing site characteristics (intersection geometry, lane widths, etc.).

Level of service (LOS) is a standard measure of effectiveness used to describe operational conditions of a traffic stream, generally in terms of such service measures as speed and travel time, freedom to maneuver, traffic