**Intercity Bus Alternatives**

The Express Bus service is designed to accommodate city-to-city travel. The key role of the Express Bus alternatives is to provide cross jurisdictional service to daily commuters who live in one city and work in another. With this in mind, service provided by “over-the-road coaches” is envisioned to attract such ridership. The objective was to stay competitive with the automobile travel using I-75 in an effort to target that particular market.

There are seven proposed routes, designed with consideration given to people’s residences and place of employment, together with travel time and duration thresholds in order to maximize potential ridership. These routes accommodate both traditional routes (suburb to city), as well as reverse commute (city to suburb) opportunities. Figure D-1, on the following page, illustrates the Intercity/Express Bus alternatives, which were recommended and approved to advance to Level III Screening for further evaluation.

**Transportation System Performance**

Figure D-2 provides a comparison of the potential transit markets of the various cities within the corridor. These numbers do not represent any prediction of express bus ridership, but are only relevant for comparison of population and employment characteristics among the cities within the corridor. The numbers in the table represent the total number of potential transit users within about a three-mile radius of the city centers based on the 1995 population and employment densities of the Traffic Analysis Zones (TAZ) provided by the Metropolitan Planning Organizations (MPO).

Specific properties for station locations were not identified, however the buffered areas were centered near major intersections in close proximity to the highway entrance and exit ramps where the higher densities of population and employment were evident. The Greater Dayton International Airport and the Cincinnati Northern Kentucky International Airport were viewed primarily as trip attractors to provide service to their respective employees. It was generally agreed that the multimodal market, transferring from plane to bus, would be rather limited.
Figure D-2: Potential Transit Markets at Express Bus Stations
Table A shows the accumulative transit market of the different routes based on the employment and population of the various cities included in each route. In order to be competitive with traveling by automobile, particularly on I-75, the routes were limited to about 60 miles in length and about an hour and a half in duration.

Table A
Express Bus Station Comparisons of Potential Transit Markets

<table>
<thead>
<tr>
<th>Station Location</th>
<th>Potential Transit Market Based on Population within a 3 mile Radius Buffer</th>
<th>Trip Origin</th>
<th>Potential Transit Market Based on Employment within a 1 mile Radius Buffer**</th>
<th>Trip Destination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Piqua</td>
<td>1,168</td>
<td>YES</td>
<td>465</td>
<td>NO</td>
</tr>
<tr>
<td>Troy</td>
<td>1,443</td>
<td>YES</td>
<td>530</td>
<td>NO</td>
</tr>
<tr>
<td>Tipp City</td>
<td>994</td>
<td>YES</td>
<td>260</td>
<td>NO</td>
</tr>
<tr>
<td>DAY Airport</td>
<td>1,199</td>
<td>NO</td>
<td>556</td>
<td>YES</td>
</tr>
<tr>
<td>Dayton</td>
<td>6,426</td>
<td>YES</td>
<td>2,263</td>
<td>YES</td>
</tr>
<tr>
<td>South Dayton</td>
<td>3,700</td>
<td>YES</td>
<td>1,042</td>
<td>YES</td>
</tr>
<tr>
<td>Springboro</td>
<td>2,02</td>
<td>YES</td>
<td>357</td>
<td>NO</td>
</tr>
<tr>
<td>Middletown</td>
<td>2,675</td>
<td>YES</td>
<td>524</td>
<td>NO</td>
</tr>
<tr>
<td>Hamilton</td>
<td>4,129</td>
<td>YES</td>
<td>755</td>
<td>NO</td>
</tr>
<tr>
<td>Tri-County</td>
<td>2,430</td>
<td>YES</td>
<td>879</td>
<td>YES</td>
</tr>
<tr>
<td>UC/Uptown</td>
<td>7,896</td>
<td>YES</td>
<td>1,892</td>
<td>YES</td>
</tr>
<tr>
<td>Cincinnati</td>
<td>6,552</td>
<td>YES</td>
<td>5,231</td>
<td>YES</td>
</tr>
<tr>
<td>Florence</td>
<td>3,116</td>
<td>YES</td>
<td>776</td>
<td>NO</td>
</tr>
<tr>
<td>CVG Airport</td>
<td>1,446</td>
<td>NO</td>
<td>841</td>
<td>YES</td>
</tr>
</tbody>
</table>

** Potential transit markets are based on buffered areas using the following equation: $T = PM$, where $T$=Potential Transit Users, $P$=Population or Employment TAZ’s within and overlapped by buffer, and $M$= 1995 OKI 4% mode split.

The estimated travel times from station to station for each route were generated based on the distance between the stations and the average speeds anticipated. In order to keep the travel time competitive, the number of stops in any one route was limited to about five. This sketch planning was used to determine if the routes were relatively competitive, particularly if one were to ride a bus from end to end. See Table B, on the following page, for the estimated travel times of each proposed route.
### Express Bus Travel Time Matrix

#### Dayton Express

<table>
<thead>
<tr>
<th>From (Station)</th>
<th>To (Station)</th>
<th>Average Speed</th>
<th>Distance (in feet)</th>
<th>Distance (in miles)</th>
<th>Travel Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dayton</td>
<td>South Dayton</td>
<td>40 mph</td>
<td>51,092 ft</td>
<td>9.68 miles</td>
<td>15 min</td>
</tr>
<tr>
<td>South Dayton</td>
<td>Springboro</td>
<td>40 mph</td>
<td>33,335 ft</td>
<td>6.31 miles</td>
<td>9 min</td>
</tr>
<tr>
<td>Springboro</td>
<td>Monroe</td>
<td>40 mph</td>
<td>38,876 ft</td>
<td>7.36 miles</td>
<td>11 min</td>
</tr>
<tr>
<td>Monroe</td>
<td>Cincinnati</td>
<td>40 mph</td>
<td>151,053 ft</td>
<td>28.61 miles</td>
<td>43 min</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td></td>
<td>274,356 ft</td>
<td>51.96 miles</td>
<td>78 min</td>
</tr>
</tbody>
</table>

#### Piqua Express

<table>
<thead>
<tr>
<th>From (Station)</th>
<th>To (Station)</th>
<th>Average Speed</th>
<th>Distance (in feet)</th>
<th>Distance (in miles)</th>
<th>Travel Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Piqua</td>
<td>Troy</td>
<td>40 mph</td>
<td>51,077 ft</td>
<td>9.67 miles</td>
<td>15 min</td>
</tr>
<tr>
<td>Troy</td>
<td>Tipp City</td>
<td>40 mph</td>
<td>40,529 ft</td>
<td>7.66 miles</td>
<td>12 min</td>
</tr>
<tr>
<td>Tipp City</td>
<td>DAY Airport</td>
<td>40 mph</td>
<td>62,443 ft</td>
<td>11.83 miles</td>
<td>18 min</td>
</tr>
<tr>
<td>DAY Airport</td>
<td>Dayton</td>
<td>40 mph</td>
<td>69,648 ft</td>
<td>13.19 miles</td>
<td>20 min</td>
</tr>
<tr>
<td>Dayton</td>
<td>South Dayton</td>
<td>40 mph</td>
<td>51,092 ft</td>
<td>9.68 miles</td>
<td>15 min</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td></td>
<td>274,789 ft</td>
<td>52.04 miles</td>
<td>78 min</td>
</tr>
</tbody>
</table>

#### DAY Airport Express

<table>
<thead>
<tr>
<th>From (Station)</th>
<th>To (Station)</th>
<th>Average Speed</th>
<th>Distance (in feet)</th>
<th>Distance (in miles)</th>
<th>Travel Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middletown</td>
<td>Springboro</td>
<td>40 mph</td>
<td>53,665 ft</td>
<td>10.16 miles</td>
<td>15 min</td>
</tr>
<tr>
<td>Springboro</td>
<td>South Dayton</td>
<td>40 mph</td>
<td>33,335 ft</td>
<td>6.31 miles</td>
<td>9 min</td>
</tr>
<tr>
<td>South Dayton</td>
<td>Dayton</td>
<td>40 mph</td>
<td>51,092 ft</td>
<td>9.68 miles</td>
<td>15 min</td>
</tr>
<tr>
<td>Dayton</td>
<td>DAY Airport</td>
<td>40 mph</td>
<td>69,648 ft</td>
<td>13.19 miles</td>
<td>20 min</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td></td>
<td>207,740 ft</td>
<td>39.34 miles</td>
<td>59 min</td>
</tr>
</tbody>
</table>

#### Middletown Express

<table>
<thead>
<tr>
<th>From (Station)</th>
<th>To (Station)</th>
<th>Average Speed</th>
<th>Distance (in feet)</th>
<th>Distance (in miles)</th>
<th>Travel Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middletown</td>
<td>Hamilton</td>
<td>40 mph</td>
<td>69,872 ft</td>
<td>13.23 miles</td>
<td>20 min</td>
</tr>
<tr>
<td>Hamilton</td>
<td>Tri-County</td>
<td>40 mph</td>
<td>52,821 ft</td>
<td>10.00 miles</td>
<td>15 min</td>
</tr>
<tr>
<td>Tri-County</td>
<td>Cincinnati</td>
<td>40 mph</td>
<td>105,997 ft</td>
<td>20.07 miles</td>
<td>30 min</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td></td>
<td>228,670 ft</td>
<td>43.31 miles</td>
<td>65 min</td>
</tr>
</tbody>
</table>

#### College - City Express

<table>
<thead>
<tr>
<th>From (Station)</th>
<th>To (Station)</th>
<th>Average Speed</th>
<th>Distance (in feet)</th>
<th>Distance (in miles)</th>
<th>Travel Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middletown</td>
<td>Hamilton</td>
<td>40 mph</td>
<td>69,872 ft</td>
<td>13.23 miles</td>
<td>20 min</td>
</tr>
<tr>
<td>Hamilton</td>
<td>Tri-County</td>
<td>40 mph</td>
<td>52,821 ft</td>
<td>10.00 miles</td>
<td>15 min</td>
</tr>
<tr>
<td>Tri County</td>
<td>UC Uptown</td>
<td>40 mph</td>
<td>84,408 ft</td>
<td>15.99 miles</td>
<td>24 min</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td></td>
<td>207,101 ft</td>
<td>39.22 miles</td>
<td>59 miles</td>
</tr>
</tbody>
</table>

#### N. Kentucky - UC Express

<table>
<thead>
<tr>
<th>From (Station)</th>
<th>To (Station)</th>
<th>Average Speed</th>
<th>Distance (in feet)</th>
<th>Distance (in miles)</th>
<th>Travel Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Florence</td>
<td>Cincinnati</td>
<td>40 mph</td>
<td>59,493 ft</td>
<td>11.27 miles</td>
<td>17 min</td>
</tr>
<tr>
<td>Cincinnati</td>
<td>UC Uptown</td>
<td>40 mph</td>
<td>21,569 ft</td>
<td>4.09 miles</td>
<td>6 min</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td></td>
<td>81,062 ft</td>
<td>15.35 miles</td>
<td>23 min</td>
</tr>
</tbody>
</table>

#### CVG Airport Express

<table>
<thead>
<tr>
<th>From (Station)</th>
<th>To (Station)</th>
<th>Average Speed</th>
<th>Distance (in feet)</th>
<th>Distance (in miles)</th>
<th>Travel Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tri-County</td>
<td>Cincinnati</td>
<td>40 mph</td>
<td>105,977 ft</td>
<td>20.07 miles</td>
<td>30 min</td>
</tr>
<tr>
<td>Cincinnati</td>
<td>CVG Airport</td>
<td>40 mph</td>
<td>70,406 ft</td>
<td>13.33 miles</td>
<td>20 min</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td></td>
<td>176,383 ft</td>
<td>33.41 miles</td>
<td>50 min</td>
</tr>
</tbody>
</table>

---

**Notes:**

40 mph Estimated Avg. Speed (Includes acceleration/deceleration time and dwell time at stations).

Actual travel time would be subject to daily traffic conditions.

Express bus options are compatible with other planning efforts in terms of the desire to interconnect cities throughout the corridor as described in the 2030 OKI Regional Transportation Plan, CitiPlan Dayton: the 20 / 20 Vision, Metro Moves, the Cleveland-Columbus-Cincinnati High Speed Rail Study sponsored by the Ohio Rail Development Commission and others.
Community Impacts
Community impacts were anticipated to be low because the express bus alternative would require very little construction. The social aspects of community would likely have little or no impacts because the implementation of the express bus alternative would utilize existing freeways, highways and roadways and therefore, would not require right-of-way, which would threaten the integrity of the neighborhoods or business districts. Parking and traffic impacts would be isolated to areas in the immediate vicinity of the station locations and required mitigation required, proportionate to ridership, would likely be minimal.

Environmental Impacts
Environmental impacts were anticipated to be low because the express bus alternative would require very little construction. The only areas, which would be impacted by construction, would be improvements to existing station locations or the creation of new stations with park and ride lots. Refer to the environmental sections of this report for a complete discussion of the secondary source literature review and other environmental issues.

Economic Development
The economic development potential would also likely be limited because of the small scale of the projects and ridership as compared to the size of the cities themselves. One would not expect any type of Transit Oriented Development (TOD) or a substantial gain in jobs or entertainment, due to the introduction of such a service. Any development inspired by such a system would likely be limited to a small area adjacent to the stations.

Joint development opportunities are anticipated to be relatively small and in proportion to the popularity of the service. They may be primarily limited to park and ride lot agreements and small service type establishments such as day care, dry cleaning and coffee shops. Large development patterns around these types of stations would not likely occur due to the perceived lack of permanency of the service.

Costs
The operating and maintenance costs associated with the express bus alternative will be determined in the more detailed Level III analysis but is expected to be a low cost alternative by comparison with the other transit options due to the fact that it would primarily operate on existing roadways.

Environmental Justice
There are no anticipated environmental justice issues associated with the express bus service due to the fact that there would be little or no disruption to the communities and that the service would be equally beneficial to the entire population.

Evaluation Summary
The Express Bus routes are similar in most criteria categories. The success of the service will be primarily judged on ridership and cost because all of the proposed routes serve logical markets and are basically unobtrusive. Table C illustrates a summary of the Level II analysis of the Express Bus transit alternative.

Record of Decision
The OKI Oversight Committee approved the recommended Express Bus alternatives as illustrated in Figure D-3 on February 20, 2002. This included an amendment to add an express bus station for the City of Monroe and advance this alternative to Level III Screening for further analysis.

The MVRPC Task Force also adopted the recommendations for the Express Bus Alternatives on March 14, 2002.
## Table C
### Express Bus Route Evaluation Matrix

<table>
<thead>
<tr>
<th>Name of Route</th>
<th>Transportation System Performance</th>
<th></th>
<th>Costs</th>
<th></th>
<th></th>
<th></th>
<th>Environmental Justice</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Potential Transit Market Based on Population</td>
<td>Potential Transit Market Based on Employment</td>
<td>Route Length (Miles)</td>
<td>Travel Time (Minutes)</td>
<td>Community Impacts</td>
<td>Environmental Impacts</td>
<td>Economic Development</td>
</tr>
<tr>
<td>Dayton Express</td>
<td>21,000</td>
<td>9,000</td>
<td>52</td>
<td>70</td>
<td>Low</td>
<td>Low</td>
<td>Limited Potential</td>
</tr>
<tr>
<td>Middletown Express</td>
<td>16,000</td>
<td>7,000</td>
<td>52</td>
<td>70</td>
<td>Low</td>
<td>Low</td>
<td>Limited Potential</td>
</tr>
<tr>
<td>College - City Express</td>
<td>17,000</td>
<td>4,000</td>
<td>39</td>
<td>58</td>
<td>Low</td>
<td>Low</td>
<td>Limited Potential</td>
</tr>
<tr>
<td>Northern Kentucky - UC Express</td>
<td>18,000</td>
<td>8,000</td>
<td>43</td>
<td>66</td>
<td>Low</td>
<td>Low</td>
<td>Limited Potential</td>
</tr>
<tr>
<td>CVG Airport Express</td>
<td>10,000</td>
<td>7,000</td>
<td>39</td>
<td>58</td>
<td>Low</td>
<td>Low</td>
<td>Limited Potential</td>
</tr>
<tr>
<td>Piqua Express</td>
<td>15,000</td>
<td>5,000</td>
<td>15</td>
<td>23</td>
<td>Low</td>
<td>Low</td>
<td>Limited Potential</td>
</tr>
<tr>
<td>DAY Airport Express</td>
<td>16,000</td>
<td>6,000</td>
<td>33</td>
<td>50</td>
<td>Low</td>
<td>Low</td>
<td>Limited Potential</td>
</tr>
</tbody>
</table>

### General Notes
1. Travel time is based on speed and distance between stations.
2. Potential transit markets are based on buffered areas using the equation below.

\[ T = PM \]

Where:
- \( T \) = Potential Users
- \( P \) = Sum of the Population or Employment "A" within and overlapped by buffer
- \( M \) = 1865 OK 4% mode split

Note: Table illustrates potential market – not ridership
Figure D-3: Level II Screening
Intercity/Express Bus Alternatives
Intercity Rail Alternatives

This type of service is similar to the Express Bus Service in terms of its target market of city-to-city commuters. The commuter rail services are more restricted by cost implications, based on the availability of existing railroad track. The specific locations of the downtown stations of Dayton, Cincinnati and other Cities have not been resolved, entirely, and likely will not be resolved in the context of this study. However, we have determined approximate station locations, which will be adequate in evaluating the performance of the transit system during Level II and III Screening in order to determine the feasibility of an Intercity Rail system.

Originally the intercity rail alternatives were based on two alignments. One alignment extends from Cincinnati to Dayton and on to Piqua, via the City of Hamilton. The other went from Cincinnati to Dayton and on to Piqua, via West Chester. Both routes are described with a list of their respective stations below. These routes were originally conceived to accommodate traditional commutes only, meaning that they would run from north to south in the morning peak hours and then return in the evening peak hours. However, in the Level III analysis it was decided to test the feasibility of running in both directions in the morning and evening.

Hamilton Alignment (originally referred to as the “CSX” alternative)
16 stations total
Piqua, Troy, Tipp City, DAY Airport, Huber Heights, Dayton CBD, Morain, Miamisburg, Middletown, Hamilton, Fairfield, Sharonville, Evendale, Hartwell, Northside, Cincinnati CBD

West Chester Alignment (originally referred to as the “NS/CSX” alternative)
15 stations total
Piqua, Troy, Tipp City, DAY Airport, Huber Heights, Dayton CBD, West Carrolton, Miamisburg, Middletown, West Chester, Sharonville, Evendale, Hartwell, Northside, Cincinnati CBD

Figure D-4, on the following page illustrates both intercity alignments, which were ultimately recommended and approved to advance to Level III Screening for further evaluation.

Transportation System Performance

Figure D-5, on page 3-35, provides a comparison of the potential transit markets of the various cities within the corridor that potentially would be served by commuter rail. These numbers do not represent an estimate of commuter rail ridership, but are only relevant for comparison of population and employment characteristics among the cities. The numbers in the table represent the total number of potential transit users within about a three-mile radius of the city centers based on the 1995 population and employment densities of the Traffic Analysis Zones (TAZ) provided by the Metropolitan Planning Organizations (MPO).

One of the system performance issues to consider is the operational dispatching of the commuter rail trains. Each alternative would require use and dispatching of trains by different owners and would require multiple "handoffs" from one operator to another.

The directional running operations (dispatched by CSX), between Hartwell and Hamilton also need to be considered with this alternative. This agreement between CSX and NS uses the CSX tracks for northbound trains and the NS tracks for southbound train movement. This system greatly increased the train capacity through this corridor. In order to board and alight passengers at the same location, a new contra flow track was envisioned adjacent to the CSX tracks. The CSX segment was chosen because of the higher track speeds in this particular area by comparison and because a light rail alternative is under study, which is proposed to be built adjacent to the CSX tracks in this area.
Figure D-5: Potential Transit Markets at Commuter Rail Stations
Figure D-6 illustrates the operational characteristics of the Hamilton route (CSX Operation). This route would require two operators, CSX and NS, and one handoff between them.

The route through West Chester, shown as the “NS/CSX Operation” shown in Figure D-7, on the following page, would require three operators (CIND, CSX and NS) and three handoffs as shown.

Logically, the fewer number of operators involved the better, especially when reliability is so critical in a commuter type of service. However, either scenario should not be considered insurmountable.
Freight volumes are also relevant when trying to determine reliability, operating impacts and cost estimating. Figure D-8, on the following page, illustrates the estimated freight train traffic using the various sections of track through the corridor. In general terms, the distinguishing difference in alignments is the track to be used from Evendale to downtown Dayton. It has been estimated that the Hamilton alignment (labeled as the CSX Alignment), has 2 tracks between Evendale and Hamilton, carrying about 44 trains a day. The section from Hamilton to downtown Dayton has 1 track and carries about 45 trains a day. On the other hand, the alternate route from Evendale to downtown Dayton via West Chester has 2 tracks and carries about 23 trains per day.

At this level of analysis it has been estimated that the Hamilton alignment would require a total of 87 miles of new track and the West Chester alignment would require about 40 miles of new track in order to accommodate the additional passenger service.

The estimated existing and proposed travel times from station to station for each route was generated for comparison purposes as shown in Table D. The existing travel times were based on existing track conditions, including speed restrictions, geometry and track classification. Proposed travel times were also developed based on what was determined to be reasonable improvements to the existing conditions.

This enables one to compare any competitive advantage, of the before and after travel times, of one route versus the other. This can be a determining factor for ridership, particularly for passengers traveling between Cincinnati and Dayton on a daily basis.
### Table D
Estimated Travel Time with Existing and Improved Track Conditions

<table>
<thead>
<tr>
<th>Hamilton Alignment with Existing Conditions</th>
<th>Hamilton Alignment with Improvements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Station</strong></td>
<td><strong>Mile</strong></td>
</tr>
<tr>
<td>Piqua</td>
<td>89.0</td>
</tr>
<tr>
<td>Troy</td>
<td>80.9</td>
</tr>
<tr>
<td>Tipp City</td>
<td>75.7</td>
</tr>
<tr>
<td>Dayton Airport</td>
<td>70.8</td>
</tr>
<tr>
<td>Huber Heights</td>
<td>68.7</td>
</tr>
<tr>
<td>Dayton CBD</td>
<td>62.3</td>
</tr>
<tr>
<td>Morain</td>
<td>56.8</td>
</tr>
<tr>
<td>Miamisburg</td>
<td>51.6</td>
</tr>
<tr>
<td>Middletown</td>
<td>37.3</td>
</tr>
<tr>
<td>Hamilton</td>
<td>27.1</td>
</tr>
<tr>
<td>Fairfield</td>
<td>22.3</td>
</tr>
<tr>
<td>Sharonville</td>
<td>16.2</td>
</tr>
<tr>
<td>Evendale</td>
<td>14.0</td>
</tr>
<tr>
<td>Hartwell</td>
<td>13.1</td>
</tr>
<tr>
<td>Northside</td>
<td>5.0</td>
</tr>
<tr>
<td>Cincinnati CBD</td>
<td>0.0</td>
</tr>
</tbody>
</table>
**Table D continued**

## Estimated Travel Time with Existing and Improved Track Conditions

<table>
<thead>
<tr>
<th>Station</th>
<th>Mile</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Chester</td>
<td>22.3</td>
<td>0.56</td>
</tr>
<tr>
<td>Troy</td>
<td>55.6</td>
<td>1.26</td>
</tr>
<tr>
<td>West Carrollton</td>
<td>47.2</td>
<td>1.30</td>
</tr>
<tr>
<td>Dayton CBD</td>
<td>55.6</td>
<td>1.42</td>
</tr>
<tr>
<td>Miamisburg</td>
<td>44.6</td>
<td>1.26</td>
</tr>
<tr>
<td>Midletown</td>
<td>34.0</td>
<td>1.11</td>
</tr>
<tr>
<td>West Chester</td>
<td>22.3</td>
<td>0.56</td>
</tr>
<tr>
<td>Sharonville</td>
<td>16.6</td>
<td>0.47</td>
</tr>
<tr>
<td>Evendale</td>
<td>14.4</td>
<td>0.42</td>
</tr>
<tr>
<td>Hartwell</td>
<td>11.1</td>
<td>0.36</td>
</tr>
<tr>
<td>Northside</td>
<td>5.0</td>
<td>0.24</td>
</tr>
<tr>
<td>Cincinnati CBD</td>
<td>0.0</td>
<td>0.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Station</th>
<th>Mile</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Piqua</td>
<td>82.3</td>
<td>2.43</td>
</tr>
<tr>
<td>Troy</td>
<td>74.2</td>
<td>2.30</td>
</tr>
<tr>
<td>Tip City</td>
<td>69.0</td>
<td>2.20</td>
</tr>
<tr>
<td>Dayton Airport</td>
<td>64.1</td>
<td>2.04</td>
</tr>
<tr>
<td>Huber Heights</td>
<td>62.0</td>
<td>1.53</td>
</tr>
<tr>
<td>Dayton CBD</td>
<td>55.6</td>
<td>1.42</td>
</tr>
<tr>
<td>West Carrollton</td>
<td>47.2</td>
<td>1.30</td>
</tr>
<tr>
<td>Miamisburg</td>
<td>44.6</td>
<td>1.26</td>
</tr>
<tr>
<td>Midletown</td>
<td>34.0</td>
<td>1.11</td>
</tr>
<tr>
<td>West Chester</td>
<td>22.3</td>
<td>0.56</td>
</tr>
<tr>
<td>Sharonville</td>
<td>16.6</td>
<td>0.47</td>
</tr>
<tr>
<td>Evendale</td>
<td>14.4</td>
<td>0.42</td>
</tr>
<tr>
<td>Hartwell</td>
<td>11.1</td>
<td>0.36</td>
</tr>
<tr>
<td>Northside</td>
<td>5.0</td>
<td>0.24</td>
</tr>
<tr>
<td>Cincinnati CBD</td>
<td>0.0</td>
<td>0.00</td>
</tr>
</tbody>
</table>

In terms of the commuter rail alternatives being compatible with other planning efforts, one must consider the high-speed rail alternatives proposed by the Ohio Rail Development Commission (ORDC). Their plans include a high-speed rail alternative to connect Cleveland, Columbus, Cincinnati and Dayton (3C+D). A final Cleveland-Columbus-Cincinnati report, dated November 1995, prepared for the ORDC, and through direct participation by representatives of the ORDC in this project, clearly show a preference to use the NS line between Evendale and downtown Dayton. South of Evendale the ORDC prefers using the Oasis line around the east side of Cincinnati to avoid the freight congestion in the Mill Creek, but do not object to using the Mill Creek if it proves to be feasible. A letter from ORDC in reference to these issues can be found in Appendix A, Section 12. The ORDC preferences are driven primarily by travel time and reliability by avoiding freight congestion and operational complexities to effectively serve the larger markets in the corridor.

From a planning perspective, it seems logical to work with the ORDC in order to come up with an alignment, which would satisfy their statewide system and a local commuter system. This would enable both parties to contribute and benefit from the infrastructure improvements of the railroad corridor, the stations and any inspired development around the stations. Granted, the target markets from a statewide perspective versus a local perspective, are somewhat different, but the commonality is the introduction of passenger service on freight lines, and the potential advantages of joint venture opportunities are undeniable.

The commuter rail options are compatible with other local planning efforts in terms of the desire to interconnect cities throughout the corridor as described in the 2030 OKI Regional Transportation Plan and the CitiPlan Dayton: the 20 / 20 Vision. Of particular interest here, is OKI’s desire to provide a transit alternative to link the City of Hamilton with the City of Cincinnati. The challenge here is to find common ground with ORDC.

### Community Impacts

Community impacts were anticipated to be low because either commuter rail alternative would require very little construction outside of the railroad corridors and therefore would not divide the communities by building new alignments through existing neighborhoods or business districts. Parking and traffic impacts would be isolated to areas in the immediate vicinity of the station locations and any required mitigation would likely be minimal.
**Environmental Impacts**

Environmental impacts were anticipated to be low because most of the construction required for either alternative is envisioned to be parallel and adjacent to the existing railroad infrastructure. Accommodations for station improvements, including the addition of park and ride lots would be considered on a case-by-case basis in the more detailed phases of planning and engineering but the number and size of the sites would be limited. Due to the industrial land uses common along railroad corridors, appropriate environmental analysis and documentation would be required in any subsequent design phases. However, the secondary source literature review, conducted for this study, reveals low impacts for either alignment, and does not support one alignment as being significantly better or worse than the other. Refer to Appendix E for the environmental documentation and a complete discussion of the secondary source literature review and other environmental issues.

**Economic Development**

The economic development potential of a local commuter rail service would likely be limited. Any development inspired by such a system would likely be limited to a small area adjacent to the stations. Joint development opportunities are anticipated to be relatively small and in proportion to the popularity of the service. They may be primarily limited to park and ride lot agreements and small service type establishments such as day care, dry cleaning and coffee shops.

The overall extent of the economic development potential will be largely dependent upon the ridership at each of the various stations. The ridership and activity at the stations can be substantially increased if the stations are integrated with ORDC’s proposed statewide high-speed rail system.

**Costs**

The capital costs, shown in Table E, reflects a rudimentary approach to making comparisons of the different alternatives. A $5 million per mile average was assumed, based on comparable national averages, and applied to the amount of new track estimated to be required for each alternative. This approach is not based on specific corridor track conditions and was based on the amount of existing track versus the amount of freight traffic utilizing it.

<table>
<thead>
<tr>
<th>Estimated Miles of New Track</th>
<th>Hamilton Alignment</th>
<th>West Chester Alignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assumed Cost Per Mile</td>
<td>$5 Million</td>
<td>$5 Million</td>
</tr>
<tr>
<td>Total Capital Cost*</td>
<td>$400 Million</td>
<td>$200 Million</td>
</tr>
<tr>
<td>Operating Cost*</td>
<td>$11 Million</td>
<td>$11 Million</td>
</tr>
</tbody>
</table>

*Estimated costs are order of magnitude for comparison purposes only, and are not corridor specific.

The method used in Level II analysis discussed above, indicates a drastic difference in capital cost between the two alignments. It should be noted however, in the Level III corridor specific analysis, there was much less disparity in capital cost between the Hamilton and West Chester alignments.

The commuter rail operating costs were developed using the assumption that three trains would travel each direction in the morning and evening peaks, for a total of twelve train trips per day. It was also assumed that one agency would manage the operation of the service for the entire corridor. At this preliminary stage of planning the operating costs are driven by travel time and mileage. Because these items are relatively equal between the two alignments, the operating costs are also relatively equal, at $11 million annually for either the Hamilton or the West Chester Alignment.

These order of magnitude capital and operating costs were generated without the participation of the railroad owners and are subject to significant, if not drastic changes, pending their participation. Multiple attempts have been made to solicit their participation,
but to date the response has been limited. See Appendix A, Section 12 for a letter from NS regarding planning efforts and the introduction of passenger services on their existing freight corridors.

**Environmental Justice**

There are no anticipated environmental justice issues associate with the commuter rail alternative due to the fact that there would be little or no disruption to the communities, and that the service would be equally beneficial to the entire population.

**Evaluation Summary**

Table F illustrates a summary of the Level II analysis of the Intercity/Commuter Rail transit alternatives as discussed above. The most distinguishing differences between the two alternatives lies in the operational capacities and the local strategic objectives.

### Table F

<table>
<thead>
<tr>
<th>Criteria</th>
<th>CSX</th>
<th>NS/CSK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Justice</td>
<td>No issues Anticipated</td>
<td>No Issues Anticipated</td>
</tr>
<tr>
<td>Environmental Impacts</td>
<td>Low adverse impacts to historical, ecological and hazardous material sites anticipated because service would be provided primarily within existing railroad corridors. May have limited air quality affects.</td>
<td>Low adverse impacts to historical, ecological and hazardous material sites anticipated because service would be provided primarily within existing railroad corridors. May have limited air quality affects.</td>
</tr>
<tr>
<td>Economic Development</td>
<td>The regional and intercity connectivity may benefit the urban economic re-development efforts in Hamilton and may contribute to the planned mixed use developments near the station.</td>
<td>West Chester could primarily benefit from the increased mobility in terms of daily commuters. May have limited development potential near stations.</td>
</tr>
<tr>
<td>Community Impacts</td>
<td>May contribute to the urban regeneration efforts in the City of Hamilton. Low adverse impacts anticipated near station locations and along existing route due to infrastructure improvements.</td>
<td>Limited community impacts at the station locations in a suburban setting. Low adverse impacts anticipated near station locations and along existing route due to infrastructure improvements.</td>
</tr>
<tr>
<td>Number of stations along route</td>
<td>16</td>
<td>15</td>
</tr>
<tr>
<td>Total Potential transit riders along route based on employment</td>
<td>10,000</td>
<td>10,000</td>
</tr>
<tr>
<td>Estimated travel time from Cincinnati to Dayton based on 13 stations and existing track conditions</td>
<td>1:42</td>
<td>1:29</td>
</tr>
<tr>
<td>Estimated travel time from Cincinnati to Dayton based on 13 stations and improved track conditions</td>
<td>1:32</td>
<td>1:25</td>
</tr>
<tr>
<td>No. of existing tracks between Evendale and Hamilton/No. of trains per day</td>
<td>2/44 / 1/45</td>
<td>2/23 / 1/23</td>
</tr>
<tr>
<td>Order of magnitude capital cost based on speculation of new track required at an arbitrary 5 million per mile</td>
<td>$400 Million</td>
<td>$200 Million</td>
</tr>
<tr>
<td>Order of magnitude operating and maintenance cost</td>
<td>$11 Million</td>
<td>$11 Million</td>
</tr>
</tbody>
</table>

*Order of magnitude capital and operating costs are not corridor specific. A more detailed analysis will be completed in Level III Screening. Costs are entirely dependent on negotiations with railroad owners and are subject to change substantially.

The West Chester route which has less freight congestion, would require less capital investment, (Level III screening reveled comparable costs), and is the preferred route of the proposed ORDC 3C+D service. From strictly a functional point of view, this alignment would appear to be more feasible.
On the other hand, the Hamilton route would coincide with OKI's expressed interest to improve the accessibility to and from the City of Hamilton with the rest of the region. This is consistent with the nationwide current planning strategies to re-vitalize the urban city centers, for the sustained benefits of the entire region.

Because of the strength of the opposing arguments, both alignments were recommended to advance to the more detailed Level III Screening.

**Record of Decision**

On February 20, 2002 the OKI Oversight Committee adopted the recommendations of the transit workgroup to advance the Hamilton route to Level III Screening with the provision that additional stations serving the northern communities of Cincinnati be considered.

The MVRPC Task Force voted to advance the Hamilton route to Level III Screening on March 14, 2002.

After additional information was obtained regarding the existing railroad corridors, the OKI Transit Workgroup recommended that the commuter rail alternatives be re-evaluated. The Oversight Committee approved this recommendation on May 29, 2002. The various MVRPC committees felt that either route would serve the Greater Dayton Community adequately and that further action on their behalf was not necessary regarding the reevaluation process.

On July 10, 2002, the Oversight Committee approved the recommendation to advance both the Hamilton and the West Chester alternatives to Level III screening for further analysis as shown previously in Figure D-4.

**Intracity Transit Alternatives**

A two-step approach to the Level II transit screening was developed to identify the alignments which would be best suited to achieve the specific goals identified by the transit workgroup as follows.

Goals:
1. To provide an alternative to automobile travel and to diversify the travel habits of those using I-75.
2. Enhance access to major activity centers, such as airports, job centers, shopping areas, universities and hospitals.
3. Develop an alignment, which supports a regional strategy for a multi-modal system.

The primary criteria discussed in the introduction of this chapter remained constant throughout the three levels of screening. However, appropriate variations in the sub categories were used to aid in the comparative evaluation of the transit alternatives.

The first step of the Level II transit screening process was an evaluation of different comparable segments, based primarily on qualitative issues. The comparison of segments based on their own merit, serving a similar area along the corridor, facilitated another "cut" or reduction of feasible alignments.

The next step was to mix and match the remaining segments to look at full alignments in a more comprehensive format. This analysis used more quantitative data pertaining to the comprehensive full-length alignments.

Comparable segments were categorized into groups. The groups included segments, which served for example, the Cincinnati Central Business Districts and from the CBD to outlying neighborhoods. The segments from each group were compared to one another, based on common criteria, in order to determine which segments should be studied in greater detail. The remaining segments were then studied in the context of full-length comprehensive alignments. The criteria used, is discussed below, followed by discussion of each segment.
Then an overview of the comprehensive alignments is presented with recommendations as to which should be advanced to the Level III analysis within their respective regions.

**Transportation System Performance**
This criteria was broken down into several components for comparison beginning with the population per mile and the employment per mile within a 1 mile wide buffer, centered on the alignment segment. These numbers allowed a quick comparison of the number of people and jobs, or potential markets that could be served by the different segments being considered.

Potential transit speed was evaluated based on a qualitative assessment of the environment. Some of the issues included in this analysis were the existing width of the right-of-way, amount of existing traffic and congestion, land uses, pedestrian orientation and crossing traffic.

The trip generators and activity centers to be served along the different segments were considered. This helped to determine what venues were seemingly critical to the success of an I-75 transit corridor.

Compatibility with other plans was also considered in the evaluation process. It was important for the alternatives to be consistent with other planning activities to maximize any potential joint development and to maintain continuity throughout the long term planning and community objectives.

**Community Impacts**
These issues included potential impacts to existing parking and traffic conditions. Store front and residential on-street parking is a shared concern among business owners and property owners alike. Any major impacts to travel patterns and traffic congestion were also considered. Other community impacts considered included the potential influence in development or redevelopment that a transit alternative may have in the various communities.

**Environmental Impacts**
The environmental impacts were assessed in the subsequent comprehensive alignments only, and based on secondary source literature review. See the Intracity Comprehensive Alignments Evaluation Matrix for the various types and number of sites identified along each alignment.

**Economic / Joint Development Potential**
Here the study identified potential unique opportunities for joint development and economic growth. In most cases, it was generally recognized that LRT systems typically have a positive economic effect on the adjacent areas.

**Costs**
Specific cost items associated with construction and right-of-way acquisition were analyzed in the comprehensive alignments only. However, any critical or outstanding issues were identified here.

**Environmental Justice**
There are no anticipated environmental justice issues associate with the intracity transit alternatives.
Appendix D

Northern Kentucky Alternatives

No additional intracity fixed-guideway rail routes are proposed in the Northern Kentucky area. The Initiative acknowledges the work of other studies affecting Northern Kentucky and has incorporated them into our recommendations. The I-71 Corridor Study and the Central Area Loop Study are independently addressing the need to accommodate local travel within the area using fixed-guideway transit. The options, as determined by the independent studies, are embraced by the Initiative and no further study or duplication of effort is being performed.

Comparisons of Uptown to I-275 Segments

Hamilton Ave. South of I-275
From Ludlow Ave to I-275

Population per mile within one mile buffer = 4,300
Employment per mile within one mile buffer = 1,300

Low speeds would be expected here. The dense residential and business districts along Hamilton Avenue, together with the limited right of way, particularly near Knowlton’s Corner, would severely limit the average speed of a light rail system.

This segment would serve the activity centers and trip generators of Knowlton’s Corner; Southern Ohio College. It would also provide a link to the City of Hamilton similar to the OKI 2030 Long Range Plan.

LRT along Hamilton Avenue, particularly around Knowlton’s Corner, may cause some additional traffic congestion and the loss of parking due to the limited right-of-way and dense development. Not recommended for further evaluation. However, if Light Rail Transit succeeds in this region and there is a demand for expansion in the future, this alignment should be revisited.

I-75 and SR 4 Uptown
From Ludlow Ave to SR 4 to I-275

Population per mile within one mile buffer = 2,700
Employment per mile within one mile buffer = 2,500

High speeds are anticipated where LRT would be within the limited access right-of-way of the Interstate and medium to low speeds where LRT would operate within the SR 4 right-of-way.

Major trip generators in this segment include, Ivorydale and the Hamilton Co. Fairgrounds. It would also provide a link to the City of Hamilton as shown in the OKI 2030 Long Range Plan.

No substantial community impacts would be expected along SR 4, although some right-of-way acquisitions would be expected along I-75.

Not recommended for further evaluation. Commuter speed, origins and destinations along SR 4 would be limited compared to other alignments.
Figure D-9: Level II Screening Intracity/Light Rail
Segmented Alignments in Hamilton County
Figure D-10: Level II Screening Intracity/Light Rail Segment Aligned in Downtown and Uptown Cincinnati
**I-75 Uptown**  
*From Ludow Ave to I-275*

Population per mile within one mile buffer = 2,600  
Employment per mile within one mile buffer = 3,500

Higher transit speeds are anticipated if LRT is within the limited access right-of-way of the Interstate.

This segment could provide transit service to Knowlton's Corner; Ivorydale; Hamilton Co. Fairgrounds; General Electric; Ford; Sharonville Convention Center. It also could provide a link to the I-71 alignment via the abandoned rail road corridor at Norwood in support of a regional rail plan.

Substantial right-of-way acquisitions would be expected along I-75 and the subsequent impacts on the community would need to be studied in greater detail.

Recommended for further evaluation. This alignment may be used in its entirety or in combination with the CSX and Norfolk Southern alignments.

---

**Oasis Line**  
*From I-71 Alignment near Norwood to I-275 (NS railroad)*

Population per mile within one mile buffer = 2,600  
Employment per mile within one mile buffer = 3,800

High speeds are anticipated if LRT is within the limited access right-of-way of the railroad.

This segment could provide service to General Electric and Ford and may be considered as an extension of the I-71 LRT alignment in support of a regional rail plan.

Not recommended for further evaluation. Although this alignment may be appropriate as an extension of the I-71 alignment, for the purposes of this study, it is desirable to serve a broader market adjacent to and west of I-75.

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**NS/CSX Line**  
*Norfolk Southern Line from Ludlow, cross over to CSX line to I-275*

Population per mile within one mile buffer = 2,500  
Employment per mile within one mile buffer = 3,000

Higher transit speeds are anticipated if LRT is within the limited access right-of-way along the existing railroad corridor.

Knowlton's Corner; Ivorydale; Hamilton Co. Fairgrounds and Tri-County Mall are among the major trip generators along this segment. It could accommodate a link to the I-71 alignment via the abandoned railroad corridor at Norwood in support of a regional rail plan.

Some right-of-way acquisitions would be expected and the subsequent impacts on the community would need to be studied in greater detail.

Recommended for further evaluation. This alignment may be used in its entirety or in combination with the Norfolk Southern and I-75 alignments.
**Norfolk Southern Line**
*NS line from Ludlow at I-75 northward through the Lockland Split*

Population per mile within one mile buffer = 3,400
Employment per mile within one mile buffer = 3,200

Higher transit speeds are anticipated if LRT is within the limited access right-of-way of the railroad.

Knowlton's Corner, Ivydale, Hamilton Co. Fairgrounds and the Sharonville Convention Center could be served. This segment could also accommodate a connection to the I-71 alignment via the abandoned railroad corridor at Norwood in support of a regional rail plan.

Some right-of-way acquisitions would be expected and the subsequent impacts on the community would need to be studied in greater detail.

Recommended for further evaluation. Sections of this alignment may be used in combination with sections of the CSX and I-75 alignments.

**Abandoned RR at Norwood**
*From NS line or I-75 south of the Norwood Lateral, east to the I-71 LRT alignment.*

Population per mile within one mile buffer = 6,000
Employment per mile within one mile buffer = 4,400

Higher transit speeds are anticipated if LRT operates within a limited access right-of-way of the railroad.

This segment could provide service to the Norwood Plaza and facilitate a connection to the I-71 alignment.

Recommended for further evaluation. This alignment may be considered as a means of connecting the I-75 and I-71 alignments or to comprise an unique alignment utilizing the south portion of the I-71 alignment and the north portion of the I-75 alignment.

**Comparisons of Segments Extending North of I-275**

**Hamilton Ave. North of I-275**
*Hamilton Ave. (SR 127) from I-275 to the City of Hamilton*

Population per mile within one mile buffer = 3,800
Employment per mile within one mile buffer = 2,300

Medium speeds would be expected. This corridor has fairly wide right-of-way, less frequent crossing streets (compared to downtown) and is not pedestrian oriented.

Major trip generators along this segment would include Knowlton's Corner and the City of Hamilton. It would also provide a future connection to the City of Hamilton similar to the OKI 2030 Long Range Plan and potentially provide economic opportunities for the City of Hamilton by providing the residents access to a broader job market in Cincinnati.

Not recommended for further evaluation. Generally, light rail trips extending beyond about 15 miles begin to loose their effectiveness due to the length of travel time. The northern portion of I-275 is about 13 to 15 miles from Cincinnati's Central Business District; therefore, to go beyond I-275 more than a mile or two at this time is not recommended.
**SR 4 North of I-275**  
**SR 4 from I-275 to the City of Hamilton**

Population per mile within one mile buffer = 3,000  
Employment per mile within one mile buffer = 2,600

Medium speeds would be expected. This corridor has fairly wide right-of-way, less frequent crossing streets (compared to downtown) and is not pedestrian oriented.

This segment could provide transit service to the Fairfield Business Center, Northpoint Business Park and Jungle Jims. It would provide a future connection to the City of Hamilton as shown in the OKI 2030 Long Range Plan and provide economic opportunities for the City of Hamilton by providing the residents access to a broader job market in Cincinnati.

Not recommended for further evaluation. This alignment also goes beyond 15 miles in length and has several areas of undeveloped land along the corridor. Light rail service in more densely developed areas would likely be more efficient.

**I-75 North of I-275**  
**I-75 from I-275 to Montgomery County Line**

Population per mile within one mile buffer = 1,400  
Employment per mile within one mile buffer = 1,100

Higher transit speeds are anticipated if LRT operates within the limited access right-of-way of the Interstate.

Major trip generators along this segment include Jergens and Union Centre. It could provide a remote connection to Hamilton and provide opportunities to expand northward along I-75. This segment could accelerate and enhance the development of Union Center.

Not recommended for further evaluation. At this time the agreed threshold of effectiveness of the light rail transit service terminates near I-275.

**Comparisons of I-275 Segments**

**I-275 West of SR 4**  
**I-275 from Hamilton Ave (SR 127) to SR 4**

Population per mile within one mile buffer = 3,700  
Employment per mile within one mile buffer = 2,700

Higher transit speeds are anticipated if LRT is within the limited access right-of-way of the Interstate.

Major trip generators along this segment include the Forrest Fair Mall and Tri-County Mall. LRT would probably draw more patrons to these heavily developed retail and business districts.

Not recommended for further evaluation. Hamilton Avenue and SR 4 also are not recommended for further evaluation; consequently, it is not feasible to establish a lateral extension or connection to a north-south alignment in this area. The extent of this lateral extension goes beyond the goals and objectives relative to the I-75 corridor.
I-275 East of SR 4
I-275 from SR 4 to I-75

Population per mile within one mile buffer = 2,300
Employment per mile within one mile buffer = 5,200

Higher transit speeds are anticipated if LRT is within the limited access right-of-way of the Interstate.

This segment would provide service to the Tri-County Mall and would likely increase the patronage to the retail and business district.

Recommended for further evaluation. A portion of this alignment, east of the Tri County Mall, is recommended for further evaluation to serve as a potential connector from the CSX alignment to an I-75 alignment.

Comparisons of UC/Uptown Segments

Calhoun St. and McMillan
Calhoun St. at Jefferson Ave to Clifton Ave. to Ludlow Ave at I-75.

Population per mile within one mile buffer = 8,400
Employment per mile within one mile buffer = 9,800

Low to medium speeds would be anticipated in this corridor due to the pedestrian oriented development around UC and Clifton in addition to the frequent intersections and heavy vehicle traffic. This is one of the most densely populated areas with one of the highest concentration of jobs.

This segment would serve Clifton Heights, University of Cincinnati west campus, Clifton, and Cincinnati State Technical and Community College. Use of this alignment would work well with the intentions of the Clifton Heights / UC Joint Urban Renewal Plan and would provide a connection to the I-71 LRT alignment which would contribute to the success of a regional rail plan. Light Rail would contribute to the desired redevelopment of this area as outlined in the Clifton Heights/UC Joint Urban Renewal Plan.

Recommended for further evaluation due to the opportunities for joint development and to capitalize on the economic stimulus of LRT, combined with the Clifton Heights / UC Joint Urban Renewal Plan and the UC Master Plan.

Martin Luther King Dr
Martin Luther King Dr from Jefferson Ave to Clifton Ave to Ludlow Ave at I-75

Population per mile within one mile buffer = 7,200
Employment per mile within one mile buffer = 13,000

Low to medium speeds would be anticipated in this corridor due to the pedestrian oriented development around UC and Clifton in addition to the frequent intersections and heavy vehicle traffic.

It would provide service to the University of Cincinnati east and west campus, Clifton and Cincinnati State Technical and Community College. It could provide a connection to the I-71 LRT alignment and contribute to a regional rail plan. Subject to revision based on the final I-71 alignment.

Light Rail would have some interruption of traffic on this major arterial. One, if not both parking lanes, would be taken to allow room for the LRT right-of-way.
Not recommended for further evaluation. According to the UC Master Plan, there is limited economic development opportunity along Martin Luther King and has not been designated as the activity center of campus.

**Jefferson Ave**  
**West Nixon St at Vine St to Jefferson Ave to Ludlow Ave at I-75**

- Population per mile within one mile buffer = 6,300  
- Employment per mile within one mile buffer = 12,900

Low to medium speeds would be anticipated in this corridor due to the pedestrian oriented development around UC and Clifton in addition to the frequent intersections and heavy vehicle traffic.

University of Cincinnati east campus and Cincinnati State Technical and Community College could be serviced with this segment. It could provide a connection to the I-71 LRT alignment and contribute to a regional rail plan. Subject to revision based on the final I-71 alignment.

Traffic flow would be negatively impacted along this alignment and could cause development outside the central activity center of the UC Campus.

Not recommended for further evaluation. This alignment has limited right-of-way and would not serve the activity center of the UC campus.

**Comparisons of the CBD to Uptown Segments**

**Gest St**  
**Third St at I-75 to Gest St to Western Ave at Ezzard Charles**

- Population per mile within one mile buffer = 6,200  
- Employment per mile within one mile buffer = 34,900

Medium speeds would be expected here. This corridor has fairly wide right-of-way, is underutilized by automobile traffic, has infrequent crossing streets (compared to downtown) and is not pedestrian oriented.

This segment would serve the UPS Downtown Headquarters and Cincinnati Union Terminal.

A light rail line along this alignment could adversely affect the core central business district by drawing development outside the core. Generally, a LRT station has a positive economic effect on the adjacent area. However, this alignment is outside what is generally considered to be the core business district.

Not recommended for further evaluation. This alignment could cause development outside the Central Business District. The investment of LRT may be better served by promoting development inside the urban core.

**I-75 CBD**  
**I-75 from 2nd St to Ludlow Ave**

High speeds would be anticipated if LRT operated within the limited access right-of-way of the Interstate.

Paul Brown Stadium, Cincinnati Convention Center, City Hall, Cincinnati Union Terminal, and Cincinnati State Technical and Community College are among the major trip generators along this segment.
The potential I-75 redesign (as a result of the Brent Spence Bridge Study) and the Convention Center expansion are unidentifiable at this time. However, this alignment could work as part of a regional rail plan.

Substantial right-of-way acquisitions would be expected and the subsequent impacts on the community would need to be studied in greater detail due to the dense development along this segment.

Not recommended for further evaluation. This section of I-75 is in flux due to the unknown resolution of a future Brent Spence Bridge study and a possible expansion of the convention center. North of Ezzard Charles the right-of-way is limited with dense adjacent development.

**Central Ave**

*Central Ave from 3rd St. to Central Parkway to Ludlow Ave*

<table>
<thead>
<tr>
<th>Population per mile within one mile buffer</th>
<th>Employment per mile within one mile buffer</th>
</tr>
</thead>
<tbody>
<tr>
<td>6,800</td>
<td>18,700</td>
</tr>
</tbody>
</table>

Low speeds would be expected on Central Ave. and on the surface of Central Parkway due to the urban infrastructure including pedestrian oriented development, frequent intersections and low speed limits. Higher speeds could be expected in the existing tunnels if they were reused.

Major trip generators along this segment include Paul Brown Stadium, Cincinnati Convention Center, City Hall, Music Hall, Findlay Market and Cincinnati State Technical and Community College

This alignment, or segments of it, could contribute to the success of a regional rail plan. Use of the existing tunnels may boost community support, ridership and overall transit development. In addition, neighborhoods north of Ezzard Charles may benefit from the economic benefits of a LRT station and possibly spur redevelopment efforts.

The reuse of the existing tunnels may provide equity to be used as a local match for funding purposes.

Recommended for further evaluation. This alignment may be able to capitalize on the reuse of the tunnels for a local match for funding purposes. Traffic impacts would also be minimized. Compared to I-75, this route is likely to have less negative impacts on the adjacent land uses and still facilitate acceptable commute times. Segments of this alignment may be eliminated or used in combination with other alignments.

**Central Parkway**

*Pete Rose Way at L&N Bridge to Eggleston Ave to Central Parkway at Ludlow Ave*

<table>
<thead>
<tr>
<th>Population per mile within one mile buffer</th>
<th>Employment per mile within one mile buffer</th>
</tr>
</thead>
<tbody>
<tr>
<td>9,900</td>
<td>34,700</td>
</tr>
</tbody>
</table>

Low speeds would be expected on Pete Rose Way, Eggleston Ave. and the surface of Central Parkway due to the urban infrastructure including pedestrian oriented development, frequent intersections and low speed limits. Higher speeds could be expected in the existing tunnels if they were reused.

Service could be provided for Cinergy Field, Procter & Gamble, Cincinnati Court House, Music Hall, Findlay Market and Cincinnati State Technical and Community College

This alignment, or segments of it, could contribute to the success of a regional rail plan.
Use of the existing tunnels may boost community support, ridership, and overall transit development. In addition neighborhoods north of Ezzard Charles may benefit from the economic benefits of a LRT station and possibly spur redevelopment efforts.

Generally, a LRT station has a positive economic effect on the adjacent area. The reuse of the existing tunnels may provide equity to be used as a local match for funding purposes. The use of the existing tunnels would minimize the need to acquire additional right-of-way.

Recommended for further evaluation. This alignment may be able to capitalize on the reuse of the tunnels for a local match for funding purposes. Traffic impacts would also be minimized. Compared to I-75, this route is likely to have less negative impacts on the adjacent land uses and still facilitate acceptable commute times compared to I-75. The use of Pete Rose Way and Eggleston Ave. are not recommended for further analysis because they fall outside the core activity center of the city, however, they may be considered as part of a regional rail plan.

The remaining segments, recommended to advance from the segmented screening process were mixed and matched to form full-length comprehensive alignments. These alignments were then evaluated based on costs, environmental impacts and system performance. Again, this was a comparative exercise to determine which options had the highest potential to achieve the goals and objectives. The general idea was to use more quantitative data to determine the impacts, costs and system performance associated with each alignment.

The cost category included the summation of possible right-of-way takes required to build the alternative. These takes were further subdivided into single family, multi-family, industrial and commercial / retail properties. Construction items were also quantified to include major cost categories such as, bridges, earthwork, utilities and track requirements, to provide some insight on which alternatives would be more expensive than others by comparison, without applying detailed unit costs to all of the alternatives. Detailed capital cost estimating was completed during the Level 3 Screening of the final alternatives.

The environmental impacts were based on secondary source literature review. Cultural and ecological resource sites, as well as Environmental Site Assessment (ESA) Resources were tabulated to determine if any of the alignments could potentially be a higher environmental risk than the others, by comparison.

The system performance was also considered. Travel time estimates and the size of the potential transit markets, based on population and employment densities, were analyses to determine if there were any clear cut advantages or disadvantages of one alternative over the others.

See Table E for the results of this analysis and Figure D-11 for an illustration of the comprehensive alignments and the corresponding recommendations.

### Intracity / Light Rail Comprehensive Alignment Descriptions and Recommendations

#### Central Parkway - CSX

**Description:**

*(Along Proposed I-71 LRT Alignment)*

- Begin near 12th St. in Covington
- North along existing CSX tracks to 2nd and 3rd Streets in Cincinnati
- East using "one-way-pairs" along 2nd and 3rd to Main and Walnut
- North using "one-way-pairs" along Main and Walnut to Central Parkway

*(Depart Proposed I-71 LRT Alignment)*

- West then north using existing Central Parkway tunnels to their terminus near Straight St.
- Continue north along Central Parkway to Ludlow
- West to cross I-75 near Ludlow to CSX line
- North along CSX / I-75 to near Clifton Ave.
• North along CSX to I-275
• East along I-275 to I-75
• North along I-75 to Union Centre Blvd (terminus)

This alignment would make use of the existing tunnels under Central Parkway and potentially leverage their equity as part of a local match. The Environmental Impacts and the performance of this alignment appear to be reasonable compared to the others. The major problem associated with this alignment is that it goes through the Proctor and Gamble Ivorydale facility. Light rail tracks would have to run adjacent to the existing railroad tracks. The additional right-of-way required to do this would have tremendous adverse impacts to the facility and would likely drive the cost of the alignment to unacceptable levels.

Not recommended to advance to Level III Screening

Central Parkway - N.S.
Description:
(Along Proposed I-71 LRT Alignment)
• Begin near 12th St. in Covington
• North along existing CSX tracks to 2nd and 3rd Streets in Cincinnati
• East using "one-way-pairs" along 2nd and 3rd to Main and Walnut
• North using "one-way-pairs" along Main and Walnut to Central Parkway
(Depart Proposed I-71 LRT Alignment)
• West then north using existing Central Parkway tunnels to their terminus near Straight St.
• Continue north along Central Parkway to Ludlow
• West to cross I-75 near Ludlow to CSX line
• North along CSX/I-75 to near Clifton Ave.
• North along Norfolk Southern line to I-75 at the Lockland Split
• North along I-75 to Union Centre Blvd. (terminus)

This alignment would make use of the existing tunnels under Central Parkway and potentially leverage their equity as part of a local match. The Environmental Impacts and the performance of this alignment appear to be reasonable compared to the others. There are more impacts to single family housing and Environmental resources compared to the others but the major problem associated with this alignment is that it also goes through the Proctor and Gamble Ivorydale facility. Light rail tracks would have to run adjacent to the existing railroad tracks. Although the impacts to the facility do not appear to be as great as the CSX alignment, the additional right-of-way required to do this would still have tremendous adverse impacts to the facility and would likely drive the cost of the alignment to unacceptable levels.

Not recommended to advance to Level III Screening

Central Parkway - I-75
Description:
(Along Proposed I-71 LRT Alignment)
• Begin near 12th St. in Covington
• North along existing CSX tracks to 2nd and 3rd Streets in Cincinnati
• East using "one-way-pairs" along 2nd and 3rd to Main and Walnut
• North using "one-way-pairs" along Main and Walnut to Central Parkway
(Depart Proposed I-71 LRT Alignment)
• West then north using existing Central Parkway tunnels to their terminus near Straight St.
• Continue north along Central Parkway to Ludlow
• West to cross I-75 near Ludlow to CSX line
• North along CSX/I-75 to near Clifton Ave.
• Continue north along Norfolk Southern/I-75 to I-75 near the Norwood Lateral
North along I-75 to Union Centre Blvd (terminus)

This alignment would make use of the existing tunnels under Central Parkway and potentially leverage their equity as part of a local match. The cost items, environmental impacts and the performance of this alignment appear to be reasonable compared to the others; however, this alignment does not provide access to Tri-County. Tri-County has been identified as a critical trip generator along the I-75 Corridor.

Not recommended to advance to Level III Screening

Central Parkway Alignment
Description:
(Along Proposed I-71 LRT Alignment)
- Begin near 12th St. in Covington
- North along existing CSX tracks to 2nd and 3rd Streets in Cincinnati
- East using "one-way-pairs" along 2nd and 3rd to Main and Walnut
- North using "one-way-pairs" along Main and Walnut to Central Parkway

(Depart Proposed I-71 LRT Alignment)
- West then north using existing Central Parkway tunnels to their terminus near Straight St.
- Continue north along Central Parkway to Ludlow
- West to cross I-75 near Ludlow to CSX line
- North along CSX/I-75 to near Clifton Ave.
- Continue north along Norfolk Southern/I-75 to the Lockland Split
- West (in new right-of-way) to the CSX line
- North along CSX to I-275

This alignment would make use of the existing tunnels under Central Parkway and potentially leverage their equity as part of a local match. It appears to have reasonable cost implications, environmental impacts and performance characteristics in comparison with the other alignments and it provides access to critical origins and destinations. Additional analysis of this comprehensive alignment would be conducted in Level III Screening.

Recommended to advance to Level III Screening

Uptown Alignment
Description:
(Along Proposed I-71 LRT Alignment)
- Begin near 12th St. in Covington
- North along existing CSX tracks to 2nd and 3rd Streets in Cincinnati
- East using "one-way-pairs" along 2nd and 3rd to Main and Walnut
- North using "one-way-pairs" along Main and Walnut to proposed tunnel
- North in tunnel to UC
- Continue north to Xavier

(Depart Proposed I-71 LRT Alignment)
- West on the abandoned Norfolk Southern line to I-75
- North along I-75 to the Lockland Split
- West (in new right-of-way) to the CSX line
- North along CSX to I-275
- East along I-275 to I-75

This alignment would join the proposed I-71 light rail alignment at Xavier University. From Xavier northward, it appears to have reasonable cost implications, environmental impacts and performance characteristics in comparison with the other alignments. The comprehensive alignment provides access to critical origins and destinations. Additional analysis of this comprehensive alignment would be conducted in Level III Screening.
Recommended to advance to Level III Screening

Clifton Connector
Description:
- from I-75 at Ludlow,
- east on Ludlow,
- south on Clifton
- east on Calhoun/McMillan
- to the I-71 light rail alignment

Ezzard Charles Connector
Description:
- from the Cincinnati Union Terminal
- to Central Parkway.

It is not recommended that the Clifton Connector (from I-75 at Ludlow, east on Ludlow, south on Clifton, east on Calhoun/McMillan to the I-71 light rail alignment) or the Ezzard Charles Connector (from the Cincinnati Union Terminal to Central Parkway) be advanced to Level III Screening. The feasibility of these connections cannot be resolved in the context of this study. The I-75 light rail alignment, the final I-71 light rail alignment and the preferred location for a multimodal facility are all critical to the functionality of the connectors and must be resolved first. It is recommended that a more appropriate analysis of these connections be conducted in the context of a comprehensive regional plan.

Not recommended to advance to Level III Screening
## Intracity / Light Rail Comprehensive Alignments Evaluation Matrix

<table>
<thead>
<tr>
<th>Description</th>
<th>Alignment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Central Parkway - CSX</td>
</tr>
<tr>
<td>Right-of-Way Takers</td>
<td>60-70</td>
</tr>
<tr>
<td>Single Family Housing (EA)</td>
<td>60-70</td>
</tr>
<tr>
<td>Multi-Family Housing (EA)</td>
<td>60-70</td>
</tr>
<tr>
<td>Industrial (EA)</td>
<td>33-39</td>
</tr>
<tr>
<td>Commercial / Retail (EA)</td>
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<tr>
<td>Total</td>
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</tr>
<tr>
<td>Costs</td>
<td></td>
</tr>
<tr>
<td>Bridges (LF)</td>
<td>9,000-10,000</td>
</tr>
<tr>
<td>Widened Cut (LF)</td>
<td>1,000-8,000</td>
</tr>
<tr>
<td>Widened Fill (LF)</td>
<td>0,000-7,000</td>
</tr>
<tr>
<td>At-Grade Crossings (EA)</td>
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<tr>
<td>Relocation of Existing Rail Track (LF)</td>
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</tr>
<tr>
<td>Relocation of Existing Street &amp; Utilities (LF)</td>
<td>5,000-7,000</td>
</tr>
<tr>
<td>Relocation of Existing Utilities (LF)</td>
<td>0.1,000</td>
</tr>
<tr>
<td>Double Embedded Track Section (LF)</td>
<td>7,000-8,000</td>
</tr>
<tr>
<td>Double Ballasted Track Section (LF)</td>
<td>80,000-89,000</td>
</tr>
<tr>
<td>Existing Tunnel/Rehab (LF)</td>
<td>9,000-10,000</td>
</tr>
<tr>
<td>Right-of-Way Takers and Construction Cost Items</td>
<td>Costs associated with the proposed I-71 Light Rail Transit alignment and the abandoned North/South track are not included in this matrix. To be determined during Level III Screening.</td>
</tr>
<tr>
<td>Environmental Impacts</td>
<td>Cultural Resources Literature Possible Sites of Concern</td>
</tr>
<tr>
<td></td>
<td>Ecological Resources Literature Possible Sites of Concern</td>
</tr>
<tr>
<td></td>
<td>Environmental Site Assessment (ESA) Resources - Possible Sites of Concern</td>
</tr>
<tr>
<td>Total</td>
<td>40-70</td>
</tr>
<tr>
<td>Transportation System Performance</td>
<td>Estimated Northbound (minutes)**</td>
</tr>
<tr>
<td></td>
<td>Intracity / Light Rail Comprehensive Alignment Estimated Pseudocount Density (Pseudocount / Mile)</td>
</tr>
<tr>
<td></td>
<td>IntraCity / Light Rail Comprehensive Alignment Estimated Employment Density, (Employment / Mile)</td>
</tr>
</tbody>
</table>

1. Quantities are based on conceptual planning only and are subject to change as a result of the development of subsequent design plans.
2. 25 ft. separation from center of existing railroad track to center of adjacent Light Rail Transit (LRT) track.
3. *Environmental Impacts (Secondary Source Literature Review itself) of the proposed I-71 LRT alignment are not represented in this matrix.
4. **Southbound travel times will be determined during Level III Screening but are expected to be similar to that of the estimated northbound travel times.
Figure D-11: Level II Screening
Intracity Comprehensive Alternatives in the OKI Region
**Level II Screening OKI Intracity Summary**

Level II Transit Screening a continuation of Level I Screening in that it was a process of elimination by comparison. However, the Level II analysis did generate and rely on a much higher level of detail than what was used in the Level I fatal flaw screening.

Originally, the Level II Screening recommended two alignments to advance to the highest level of analysis to be used on Level III Screening. This recommendation was ultimately revised based on the work of the Regional Rail Plan contained within the Metro Moves plan. The Metro Moves plan is a comprehensive transit plan, which includes bus and rail components in a truly regional multimodal plan. This plan illustrates how the I-75 transit alternatives would fit into the larger regional plan.

Clearly an extension of the I-71 LRT alignment on the east side of downtown Cincinnati provided advantages in the context of the broader regional plan. This decision was not difficult, especially given the fact the Central Parkway alignment was to be used as part of an alignment to serve the west side of Cincinnati and extend west along I-74. In addition, a portion of the Central Parkway alignment is planned to provide a cross-town alignment connecting the east and west suburbs of Cincinnati. See Figure D-12 for an illustration of the Level II transit recommendations.

**Record of Decision**

On February 20, 2002, the Oversight Committee accepted the recommendations of the transit Work Group to advance two LRT alignments for further analysis. One alignment was the Central Parkway alignment going around the west side of downtown Cincinnati and the other was an extension of the I-71 LRT alignment, going up the east side of downtown Cincinnati.

The original recommendation was revised by the transit workgroup on May 29, 2002, when the Work Group recommended the advancement of only one alignment, which extended from the I-71 LRT alignment near Norwood. The revised recommendation to advance the I-71 extension for further analysis was approved by the Oversight Committee on the same day, based on the work of the Regional Rail Plan as discussed above.
Figure D-12: Level II Screening
Intracity/Light Rail Alternatives in the OKI Region

NORTHERN I-71 SEGMENT (ADVANCE TO LEVEL III SCREENING)

SOUTHERN I-71/I-74 SEGMENT (ADVANCE TO LEVEL III SCREENING)

ST. BERNARD CORRIDOR
POTENTIAL FUTURE BUILD OUT

CENTRAL PKWY
18 ONE SEGMENT OF THE LONGER I-74 CORRIDOR
MVRPC Level II Intracity Alternatives Analysis

The following MVRPC Region’s Intracity segments are illustrated in Figures D-15.

Comparisons of Segments South of Downtown Dayton

I-75 South
I-75 from SR 73 to US 35

Population per mile within a 1 mile wide buffer = 1,500
Employment per mile within a 1 mile wide buffer = 3,500
Estimated Travel time in minutes = 23

Higher speeds and reduced travel time is expected along this segment due to the use of dedicated transit right-of-way along the Interstate.

Major trip generators include the University of Dayton Arena and Welcome Stadium. This segment could be incorporated into the proposed Interstate Improvements.

It may be possible to share benefits and costs associated with the implementation of this segment by combining highway and transit development projects.

Recommended to advance to Level III Screening. This alignment would provide competitive travel times for daily commuters, which would likely boost ridership.

SR 741
SR 741 from SR 73 to Kettering Blvd / S. Dixie to S. Patterson at SR 48

Population per mile within a 1 mile wide buffer = 2,000
Employment per mile within a 1 mile wide buffer = 3,500
Estimated Travel time in minutes = 31

Lower speeds and increased travel times are expected due to the posted speed limits and at-grade crossings along this segment.

Major potential trip generators along this route include the Dayton General Airport South, and the Dayton Mall. Street widening and right-of-way acquisition would be anticipated with some traffic implications.

Not recommended to advance to Level III Screening. This alignment would have higher travel times and cause more impacts to existing local traffic compared to the I-75 alignment. However, portions of this segment could be used in a comprehensive alignment to provide service to the retail area at the Alex-Bell Station and the SR 725 Station.

Comparisons of Segments through Downtown Dayton

I-75 Downtown
From Edwin C. Moses to Keowee

The population and employment statistics are accounted for in the comprehensive alignment due to the limited length of this segment.

Transit speed is not a critical factor in the Central Business District. Major trip generators along this segment include the Government District and Sinclair Community College.

This segment could be incorporated into the proposed Interstate Improvements. A station located near 1st or 2nd could stimulate the desired infill of mixed-use development of Monument Avenue West as described in the 20/20 Vision. This segment would not provide an opportunity for a multimodal interface with commuter rail within Central Business District.
May cause additional residential and business impacts and/or displacement in conjunction with I-75 improvements and it may be possible to share benefits and costs by combining highway and transit development projects.

Not recommended to advance to Level III Screening. This segment of I-75 has limited right-of-way due to the dense adjacent development of the central city. Much of the Interstate is on structure and plans for major improvements and are underway. This segment of I-75 would only facilitate one stop (on the west edge) to serve the entire Central Business District.

### Comparisons of Downtown Segments South of US 35

#### South Patterson Blvd.
**From Stewart to Main**

The population and employment statistics are accounted for in the comprehensive alignment due to the limited length of this segment. Transit speed is not considered a critical factor in the Central Business District by comparison.

Montgomery County Fairgrounds, Miami Valley Hospital and the Vietnam Veterans Memorial could be served along this segment. This segment would work with the Rubicon Park Master Plan by providing service and stimulus to the Montgomery County Fairgrounds, however, the industrial activity of the Midtown District may not be the most compatible land use associated with light rail type of service.

It may require street widening and/or loss of some on-street parking to accommodate intracity transit and to minimize impact to vehicular traffic. The area around the stations would likely become more active. There could also be some joint development potential with the Fairgrounds.

Not recommended to advance to Level III Screening. The geographic location of this segment (adjacent to the river and on the west edge of Rubicon Park) limits its economic development impact and range of service in this area.

#### Brown St.
**From Stewart at Patterson to Brown to Warren to Jefferson at N. Patterson**

The population and employment statistics are accounted for in the comprehensive alignment due to the limited length of this segment. Transit speed is not considered a critical factor in the Central Business District by comparison.

Major trip generators include the Montgomery County Fairgrounds, University of Dayton and the Miami Valley Hospital. This segment would work well with the Rubicon Master Plan by providing service and possible economic stimulus to the desired pedestrian oriented mixed use redevelopment of Brown Street.

It may require street widening and/or loss of some on street parking to accommodate intracity transit and to minimize impact to vehicular traffic. Right-of-way acquisitions would be anticipated and economic stimulus may be anticipated around station locations.

Recommended to advance to Level III Screening. This alignment would provide reasonable access to the University of Dayton, Miami Valley Hospital and the Fairgrounds. It would also compliment the redevelopment efforts of Brown Street.

### Comparisons of Downtown Segments North of US 35 to Monument/1st

#### Main St.
**From Patterson to Monument / 1st**

The population and employment statistics are accounted for in the comprehensive alignment due to the limited length of this segment. Transit speed is not considered a critical factor in the Central Business District by comparison.
This segment could provide transit service to the following activity centers: Core of the Central Business District, Courthouse Square, Convention Center, Schuster Center, Arcade Square, Victoria Theater, RiverScape, and Wright Stop Plaza.

Intracity transit service on this segment would work well with the 20/20 Vision. This segment is recognized as the core of the Central Business District and as the key to the future vitality of downtown. The desire to perpetuate high density mixed uses, a pedestrian friendly environment and heightened activity would work well with Intracity type transit services. May provide an opportunity for a multimodal interface with commuter rail within Central Business District.

May require street widening and / or loss of some on street parking to accommodate intracity transit and to minimize impact to vehicular traffic. The area around the stations would likely experience a higher concentration of activity.

Recommended to advance to Level III Screening. Main Street is already functioning as a transit center; parking is pushed a block away and it is pedestrian oriented. Clearly the highest concentration of jobs in the downtown area, are along Main St. The highest return on investment may be realized in this critical core area of the Central Business District.

**N. Patterson Blvd.**

*From Main to Monument*

The population and employment statistics are accounted for in the comprehensive alignment due to the limited length of this segment. Transit speed is not considered a critical factor in the Central Business District by comparison.

The Convention Center, Oregon District, Library and Fifth Third Field are among the major trip generators, which could be served via this segment. Intracity transit service on this segment of Patterson would work with the 20 / 20 Vision by helping to establish it as a new primary downtown corridor and by connecting the emerging Webster Station District, the Riverfront and the Oregon District. May provide an opportunity for a multimodal interface with commuter rail within Central Business District.

This segment may require street widening and / or loss of some on street parking to accommodate intracity transit and to minimize impact to vehicular traffic. Special consideration would have to be given to the one-way portion of the street. The area around the stations would likely become more active.

Not recommended to advance to Level III Screening. While there may be benefits to the development of Patterson, by establishing intracity transit on this segment, the priority should be to solidify the true core of the Central Business District on Main St.
Monument / 1st
From Main to Webster

The population and employment statistics are accounted for in the comprehensive alignment due to the limited length of this segment. Transit speed is not considered a critical factor in the Central Business District by comparison.

Trip generators along this segment include the Riverfront District, Fifth Third Field, Memorial Hall, Victory Theater and Tool Town. Intracity transit service on this segment would work with the 20/20 Vision by stimulating the growth of the Riverfront District and Tool Town.

May require street widening and/or loss of some on-street parking to accommodate intracity transit and to minimize impact to vehicular traffic. One-way pairs would be used to work with the existing travel patterns.

Recommended to advance to Level III Screening. Providing service to the Riverfront District and Fifth Third Field is very desirable given they are among the primary activity centers of Downtown.

Comparison of the Downtown Dayton River Crossings

Main St. River Crossing
From Monument St. to I-75

The population and employment statistics are accounted for in the comprehensive alignment due to the limited length of this segment. Transit speed is not considered a critical factor in the Central Business District by comparison.

This segment would provide limited service to the Riverfront District. Intracity transit service on this segment of Main Street, to cross the Miami River, would have little relevance to any known planning efforts and bridge widening would be required to minimize the impacts to vehicle traffic.

Not recommended to advance to Level III Screening. Crossing the river at this point would require a Main St. bridge expansion and an additional river crossing bridge to get back to a northern I-75 alignment. This alignment would preclude service to Fifth Third Field, Tool Town, and the redevelopment efforts of the McCook Field Neighborhood.

Webster St.
From Monument to Keowee

The population and employment statistics are accounted for in the comprehensive alignment due to the limited length of this segment. Transit speed is not considered a critical factor in the Central Business District by comparison.

Service to Tool Town and Deeds Point Park could be provided with this segment. Intracity transit service on this segment of Webster would compliment the efforts of the McCook Field Neighborhood Strategic Development Plan by stimulating the residential and commercial economies.

There is also a need to replace the existing Webster Street Bridge and it can be designed and constructed to accommodate Intracity Transit with minimal impacts to vehicular traffic. Some right-of-way acquisition would be anticipated.

Recommended to advance to Level III Screening. This river crossing would capitalize on the needed bridge replacement and the desired economic stimulus in the McCook Neighborhood. It would also work well with the development efforts on the riverfront and Tool Town.

Comparisons of Segments Extending North from Downtown Dayton

I-75 North
### I-75 from Second Street to Dayton International Airport

Population per mile within a 1 mile wide buffer = 2,000  
Employment per mile within a 1 mile wide buffer = 3,000  
Estimated Travel time in minutes = 15  

Higher speeds and reduced travel time would be expected here due to dedicated right-of-way along Interstate.

Service to the Dayton International Airport would be possible with this segment. Transit could be incorporated into the proposed Interstate Improvements. Right-of-way acquisition would be required.

Recommended to advance to Level III Screening. The lower travel time, made possible by running in an exclusive right-of-way, without traffic interference, together with the possible joint development opportunities associated with the interstate improvements appear to make this alignment superior by comparison.

### North Dixie Drive

**North Dixie Drive from I-75 to Dayton International Airport**

Population per mile within a 1 mile wide buffer = 2,000  
Employment per mile within a 1 mile wide buffer = 2,000  
Estimated Travel time in minutes = 22  

Lower speeds and increased travel times due to posted speed limits and at-grade crossings.

This segment could provide service to the Dayton International Airport. Street widening and right-of-way acquisition would be anticipated and some traffic implications would be expected.

Not recommended to advance to Level III Screening. This alignment would have higher travel times and cause more impacts to homes, businesses and existing local traffic compared to the I-75 alignment.

### CSX Line North

**Downtown Dayton to the Dayton International Airport**

Population per mile within a 1 mile wide buffer = 1,000  
Employment per mile within a 1 mile wide buffer = 2,500  
Estimated Travel time in minutes = 21  

Higher speeds and reduced travel time is anticipated due to dedicated right-of-way adjacent to existing railroad.

The Dayton International Airport could be served. Right-of-way acquisition would be required with minor street widening.

Not recommended to advance to Level III Screening. This alignment would have higher travel times, however, this alignment is relatively undeveloped and this type of transportation investment may be better suited to improve existing areas of development instead of creating competing new areas of development.
### Table F

#### Recommended Intracity Comprehensive Alignment Matrix

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>From I-75 at SR 73 to N. Dixie Dr at the Dayton International Airport</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population Per Mile (within 1 mile wide buffer)</td>
<td>2000</td>
</tr>
<tr>
<td>Employment Per Mile (within 1 mile wide buffer)</td>
<td>4000</td>
</tr>
<tr>
<td>Estimated Travel Time (minutes)</td>
<td>54</td>
</tr>
<tr>
<td>Transit Speed</td>
<td>Higher speeds and reasonable travel time due to use of dedicated right-of-way where possible along Interstate</td>
</tr>
<tr>
<td>Trip Generators / Activity Centers</td>
<td>South Dayton Hub, Dayton Mall, University of Dayton Arena, Welcome Stadium, Montgomery County Fairgrounds, University of Dayton Campus, Brown Street, Miami Valley Hospital, Wright Stop Plaza, Central Business District, Riverfront District, Fifth Third Field, Tool Town</td>
</tr>
<tr>
<td>Compatibility with other Plans</td>
<td>This comprehensive alignment would work well with the 20/20 Vision because it could stimulate growth in the core of the Central Business District, the Riverfront District and Tool Town. It would also serve some of the strategic development plans associated with the McCook Field Neighborhood Strategic Development Plan. The portion of the alignment along the Interstate could be incorporated into the highway improvement plans.</td>
</tr>
<tr>
<td>Community Impacts</td>
<td>Right-of-Way acquisition is required and may require street widening and/or loss of some on street parking to accommodate intracity transit and to minimize impact to vehicular traffic. The area around the stations would likely become more active.</td>
</tr>
<tr>
<td>Environmental Impacts (Secondary Site Review)</td>
<td></td>
</tr>
<tr>
<td>Cultural Resources</td>
<td>15-20 sites</td>
</tr>
<tr>
<td>Ecological Resources</td>
<td>20-25 sites</td>
</tr>
<tr>
<td>ESA - Sites of Concern</td>
<td>10-15 sites</td>
</tr>
<tr>
<td>Economic Development Potential</td>
<td>May be possible to share benefits and costs by combining highway and transit development projects. Economic stimulus anticipated around station locations.</td>
</tr>
<tr>
<td>Right-of-Way Takes</td>
<td></td>
</tr>
<tr>
<td>Single Family Housing</td>
<td>9-10 sites</td>
</tr>
<tr>
<td>Multi-Family Housing</td>
<td>9-10 sites</td>
</tr>
<tr>
<td>Industrial</td>
<td>9-10 sites</td>
</tr>
<tr>
<td>Commercial / Retail</td>
<td>9-10 sites</td>
</tr>
<tr>
<td>Construction Cost Items</td>
<td>Bridges: 4,0005,000 linear feet, Walls with Cut: 0-500 linear feet, Walls with Fill: 3,000-4,000 linear feet, At-Grade Crossings Major: 60-70 sites, At-Grade Crossings Minor: 20-20 sites, Double Embedded Track Section: 60,000-100,000 linear feet, Double Ballasted Track Section: 90,000-100,000 linear feet</td>
</tr>
<tr>
<td>Environmental Justice</td>
<td>Distribution of Benefits and Impacts: Disproportionate distributions are not anticipated.</td>
</tr>
<tr>
<td>Recommendation and General Comments</td>
<td>Recommended to advance to Level II Screening. This comprehensive alignment provides reasonable travel time by establishing exclusive right-of-ways where possible and providing service to key trip generators.</td>
</tr>
</tbody>
</table>

#### Notes

**Primary Goals and Objectives**

To provide an alternative to automobile travel and to diversify the travel habits on I-75.

Enhance access to major activity centers (airports, job centers, shopping areas, universities/colleges, hospitals, etc.).

Develop an alignment which supports a regional strategy for a multi-modal system.
Figure D-14: Level II Screening
Intracity Segmented Alignments in Downtown Dayton
Level II Screening MVRPC Intracity Summary

Level II transit screening is a continuation of Level I Screening, in that it was a process of elimination by comparison. However, the Level II analysis did generate and rely on a much higher level of detail than what was used in the Level I fatal flaw screening.

The Level II Intracity alternatives in the MVRPC region were being studied with the idea of exploring either light rail or bus rapid transit, or both, in greater detail in the Level III analysis.

The Level II screening process included a review of the segmented alignments and then a review of a comprehensive alignments. Through a process of elimination of the less desirable segments, a single comprehensive alignment was created by default.

An inventory of environmental impacts, based on secondary source literature review was completed for the longer segments extending north and south from the downtown area. An inventory of cost items was also completed for these same segments. In both cases the quantitative values were non-conclusive in determining whether one alignment was clearly better or worse than the other.

Because of this, the screening of the segments was based primarily on the segments ability to achieve the goals and objectives outlined for the transit alternatives. This included how well it fit with other planning efforts in addition to the trip generators or activity centers to be served along the segments. The potential transit speeds were also weighed heavily in order for the transit alternatives to reach the goals and objectives through increased ridership in transit.

Record of Decision
On March 14, 2002 the Miami Valley Regional Planning Commission Task Force accepted the recommendations of the Transit Work Group to advance one Intracity alignment to Level III Screening for further analysis. This alignment extended from Springboro in the south, through downtown Dayton, and up to the Dayton International Airport as shown in Figure D-15.
Figure D-15: Level II Screening
Intracity Segmented Alignments in Downtown Dayton