# I-90 Access Study
# Avon, Ohio

## Presentation to City Council

## February 20, 2006

## PURPOSE OF THE PRESENTATION

The purpose of the presentation to council on February 20, 2006, is to present the preliminary findings of the I-90 Access Study. The study team will provide information on the study process, the need for the project, the alternatives considered, the results of technical analyses, and a summary of public comment as a result of the January 19, 2006 public meeting. The study team is seeking approval from the council at the next session to proceed with the documentation of these findings and a recommendation on a proposed concept.

## PURPOSE OF THE PROJECT

### Support Growth Consistent with Existing Land Use Plans & Provide Improved Access to I-90

Avon population has been consistently growing, outpacing projections. Continued residential growth creates a tax burden on services for the rest of the city. To capture more tax base, the City of Avon administration utilizes the strategy of adding industry to offset the costs of residential growth. Currently, only 25% of the industrial zoned land in Avon has been filled by industrial companies. At the rate the region is growing, additional industry will be required to support the residential population.

Industrial development has primarily been focused on the north side of I-90 between the Crocker Rd and SR 83 interchanges. The area is currently zoned for manufacturing or office use. Current access to I-90 for this area is inefficient, particularly for eastbound traffic. Workers and shipments desiring to travel eastbound on I-90 from the industrial area have two possible routes, both of them long with several turns. Traffic using the SR 83 interchange must travel up to three miles west to SR 83, pass through four traffic signals and two left turns, to access the on-ramp from SR 83 to I-90 eastbound.

The alternative route eastbound, using the Crocker Road interchange, requires traffic to proceed approximately one mile south to Detroit Road (via Jaycox or Nagel Roads), turn left on to Detroit Road and travel two to three miles, make a left-turn on to Crocker Road then a right turn on to the on-ramp to I-90 eastbound. This route passes through the residential area south of I-90. Detroit Road contains numerous older homes and historic structures and is prohibited in the City's charter from being widened beyond two through lanes.

In the past, the City of Westlake has rejected suggestions to connect Just Imagine Drive to Clemens Road to provide a more direct connection from Avon's industrial area to the interchange at Crocker Road. The Crocker Road interchange is already heavily congested. Adding additional traffic to the Crocker interchange on the north side, particularly eastbound traffic that would then have to make a left-turn on to I-90 (under the proposed improvement scenario), would further degrade the service to Westlake. Westlake has reportedly also considered closing Avon Road at their border on the south side of I-90.

Development of Avon's industrial area to its best advantage and according to its existing zoning requires improved access to I-90 in order to maintain appropriate service to existing, expanding industries and new business investments while minimizing the effect on residential areas.

To evaluate the function of the existing access points to I-90, TranSystems prepared an assessment of the capacity of the existing roadway network. Currently the existing peak hour levels-of-service show that travelers from each of the four jurisdictions within the study area are experiencing long delays as they approach access points to I-90. The regional shopping centers and the large volume of industrial and manufacturing companies attract substantial amounts of traffic to the area. This problem is increased by the large population living just beyond the industrial belt to the north and commercial belt to the south. The SR 83 and Crocker Road interchanges act as a funnel in terms of bringing traffic to each of the four cities. Residents, workers and shoppers who all rely so heavily on the use of the interstate, are vying for limited access to and from I-90. As the region continues to grow, more and more traffic flows to and from I-90 through a limited amount of access points. As the population grows, delay times will continue to increase. Without improved access to I-90, this trend will continue well beyond 2030.

# CONCEPTS UNDER CONSIDERATION

## No Action

**No Build** - This option would involve no improvements to access to I-90 other than routine maintenance of the existing access points.

## Upgrade Existing

**Upgrade SR 83 Interchange** – This option would involve minor improvements to the interchange at SR 83, most likely signal timing improvements and an additional turn lane to improve the intersection of SR 83 at I-90 westbound. These minimal improvements are assumed to be included along with any of the other options under consideration.

**Upgrade SR 83 and Crocker Interchanges** – This option would include minor improvements at SR 83 and the full reconstruction of the Crocker Road interchange, most likely to a Single Point Urban Interchange (SPUI) type, which can move a larger amount of traffic than the current design. This design concept was recommended by a previous study commissioned by Westlake but has not yet been planned or funded.

## Provide New Access Point

**Jaycox Option** – This alternative would involve construction of a new interchange connecting to Jaycox Road. It is likely that Jaycox Road would need to be improved between Detroit Road and Chester Road.

**Chester-Middleton Option** – This alternative, which was suggested during earlier public forums, would provide a new interchange between Jaycox and Nagel Roads. A new arterial would need to be constructed to connect to Chester Road on the north and an extension of Middleton on the south, which would also need to be constructed as a part of this option. This alternative would also require the removal and replacement of the Jaycox Road bridge over I-90 to accommodate the ramps. At this point in the process, the study does not anticipate that this new connector would extend to Detroit Road, in order to avoid an additional signalized intersection on Detroit Road and to minimize impacts to that area.

**Nagel Option** – This alternative would involve construction of a new interchange connecting to Nagel Road. It is likely that Nagel Road would need to be improved between Detroit Road and Chester Road.

**Napa/Avon Commerce Parkway Option** – This alternative would involve construction of a new interchange just east of Nagel Road. Napa Boulevard on the south and Avon Commerce Parkway on the north would need to be constructed to provide connection to the interchange. Napa Boulevard is currently envisioned as a collector street with driveways, but would need to be constructed as an arterial between I-90 and Detroit Road if this option is proposed. Both Avon Road and Just Imagine Drive would most likely need to be realigned if an interchange is proposed in this location.

# COMPARISON OF CONCEPTS

The following comparison was presented at the January 19, 2006, public involvement meeting.

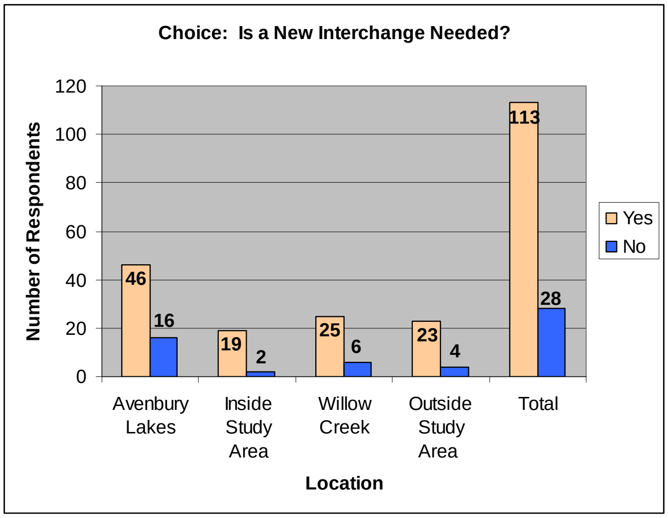
Avon I-90 Access Study
Comparison of Conceptual Alternative Solutions

| Concept | Preliminary Construction Cost* | Pros | Cons |
|---|---|---|---|
| No Build | --- | No direct impacts<br>No direct costs | No improvements to access for industry<br>Congestion continues to increase |
| Improve SR 83 | $270K | Low cost<br>Minimal direct impacts | Minimal benefit to congestion<br>No improvements to access for industry<br>No reserve capacity if growth exceeds projections |
| Upgrade Crocker and SR 83 | $17.6 M | Addresses existing congestion problem at Crocker<br>Minor direct impacts | No improvements to access for industry<br>Proposed before but not implemented<br>Maintaining traffic during construction will be difficult<br>Avon access through Westlake<br>No reserve capacity if growth exceeds projections |
| Jaycox Interchange | $17.9 M | Provides direct access to industrial area via Jaycox to Chester<br>Reduces traffic volume on most of Detroit<br>Reduces volume on Nagel | Increases traffic volume on Detroit west of Jaycox by 22%<br>Provides least traffic reduction on Crocker compared to other interchange options<br>Increases traffic volume on Jaycox south of Detroit by 50% (results in similar traffic levels on Nagel and Jaycox south of Detroit) |
| Chester-Middleton Interchange | $22.0 M | Provides direct access to industrial area via new connector to Chester<br>Reduces traffic volume on Detroit throughout<br>Disperses southbound traffic on Jaycox and Nagel via Middleton | Introduces new intersection on Chester close to the Jaycox intersection<br>Requires more turning movements for southbound traffic<br>Does not provide direct connection to Avon Lake<br>Increases volumes on Jaycox and Nagel<br>Does not connect to planned thoroughfare |
| Nagel Interchange | $14.6 M | Provides direct access to industrial area via Nagel to Chester and Just Imagine<br>Reduces traffic volume on Detroit throughout<br>Provides greatest traffic reduction on Crocker | Increases volume on Nagel (south of Detroit this increase is minimal <7%) |
| Napa Interchange | $18.1 M | Provides direct access to industrial area via Avon Commerce Parkway and Just Imagine<br>Reduces traffic volume on Detroit throughout<br>Puts traffic from interchange on new road (Napa Blvd) rather than existing roads such as Nagel or Jaycox | Requires realignment of Just Imagine and Avon Roads and associated property impacts<br>Puts traffic from new access point on Napa Blvd, near existing subdivision<br>Does not provide direct connection to Avon Lake |

*Includes preliminary construction cost for interchange as well as improvements to the arterial to which it connects. Does not include other project costs, such as environmental studies or property acquisition.:

## PUBLIC INPUT

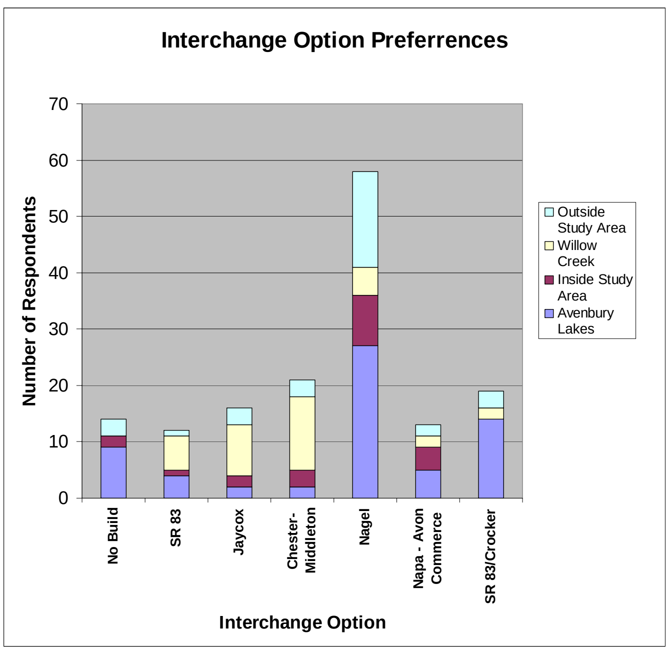
A public meeting was held January 19, 2006, to present the project's purpose, the conceptual alternative solutions, and the preliminary comparison. 255 individuals attended the meeting. 147 comments were received as a result of the meeting. Following is a synopsis of the comments received:




Of the 147 comments received, 113 agreed that a new interchange should be constructed. These responses are shown at left by the location of the commenter.

Those expressing a desire for a new interchange indicated that it is needed to support the continuing growth of Avon, population is continuing to grow, for industrial development, to improve access to Avon Lake, and to relieve congestion.

Those opposed to a new interchange indicated that existing congestion is not unacceptable, that Avon is not (or should not be) increasing in size, that existing interchanges should be upgraded to improve traffic flow, or that additional commercial development around a new interchange would be bad for Avon.




Of the 147 comments received, 141 expressed an opinion on which option should be constructed. The comments favoring each option are shown in the graph at the left, color coded to indicate the location of the commenter.

Other issues that were raised and will be discussed:

- If a new interchange is built, it needs to be designed right and protected so it doesn't become another Crocker.
- Noise, air quality, crime and litter are concerns.
- Commercial development is a concern.
- The existing Master Plan was raised as an issue.
- Proximity to neighborhoods and historic properties.

## CONCLUSIONS

The comparison of alternatives along with public comment suggests the following:

**A new access point should be pursued.** The upgrade alternatives would achieve Level of Service (LOS) D at the existing access points, which is typically accepted in an urban area but is below the preferred design standard of LOS C. Upgrading the existing access points would address current congestion problems and is recommended, regardless of whether a new access point is constructed. However, only upgrading the existing access points would not eliminate circuity of travel for traffic from the industrial area to I-90 eastbound, and therefore fail to meet the project's purpose.

A study commissioned by the City of Westlake recommended the upgrade of the Crocker Road interchange to a Single Point Urban Interchange (SPUI), a more efficient design for moving large volumes of turning traffic at an interchange. The City has indicated that this project is intended, but is not yet planned and funded due to other higher priorities on the local street system. Even if this option is implemented, improving local connections on the north side of the freeway to allow improved access from the industrial area to the Crocker Road interchange would require access through Westlake on city streets. The City of Westlake would control access into the City of Avon's industrial area, a less than desirable condition.

Upgrading existing access points would provide a less long-term solution than a new access point. The upgrade options are shown to operate at LOS D in 2030 based upon traffic projections from NOACA's travel demand model. This model is required to utilize constrained regional growth estimates and does not focus on specific future developments. This makes the results less certain at a localized level. Avon and Lorain County have outpaced these projections in the past. Only a new interchange option would provide excess capacity in the event that growth exceeds projections, which has typically been the case in recent years, or if a specific future development generates more trips in proximity to I-90 than predicted within the limitations of the model.

Public comments support the need for a new access point. Of 147 written comments received, 113 (77%) agreed that a new interchange should be constructed. This percentage is roughly the same (75-90%) regardless of location in the study area.

**The proposed new access point should connect to Nagel Road.** Of all of the options considered, this alternative best balances traffic operations and access with community impacts. Based upon a preliminary concept for the interchange, the Nagel Road option would require relocations of two properties on the north side of the freeway, but would relocate no residents on the south side of I-90. This option would utilize an existing connector, Nagel Road, which contains a handful of residential lots near the intersections of Nagel/Avon and Nagel/Detroit. Traffic volumes would increase substantially on Nagel Road between Chester and Detroit Roads, but are predicted to increase by approximately 7% (compared to No Build condition in 2030) on Nagel south of Detroit. Volumes on Detroit Road would be expected to decrease compared to the No Build condition in 2030.

Expressed public concerns with this option include increased noise, litter, and air quality issues. At a planning-level, the differences between the alternatives can be illustrated by evaluating the number of residential properties in proximity to the main roads accessing the proposed interchanges. Of the new interchange concepts, the Nagel option has the fewest number of residences within 400 feet of new or improved roadways and would therefore be expected to be the best new interchange option in terms these impacts on existing neighborhoods. Noise and air quality implications of the project will be examined as required in the environmental studies process in the next phase.

Public comments support the choice of Nagel Road for the new interchange, as illustrated in the graph on the previous page. Of 141 comments expressing an opinion, 58 expressed support for the Nagel option as their first choice.

## NEXT STEPS

- Council makes a recommendation on concept to pursue
- Develop implementation plan and funding strategy
- Consultant completes study documentation
- Review of study and implementation plan by ODOT, FHWA and NOACA
- Begin environmental and preliminary engineering studies to determine exact layout and extent of improvements
- NOACA places project on the TIP
- ODOT and FHWA review of environmental and preliminary engineering
- Obtain ODOT and FHWA approvals of new access point and environmental studies
- Design of construction plans
- Acquisition of property
- Construction

How these tasks occur, by whom and on what timetable, will be determined by the implementation plan and funding strategy. Council will need to make a decision on a location to allow negotiations to begin with private sector to secure financing for the project.