

SR 141 and I-95 Interchange Improvements

Summary of Virtual Workshop Comments

September 10, 2010

Description of Project:

The purpose of this project is to develop a concept plan to address the long term needs of the SR 141 and I-95 interchange. The limits of this study are from the Commons Boulevard intersection to the Christina River Bridge. The project is intended to determine the capacity and safety issues within the study area and to develop alternatives to improve the operation of the interchange. Specifically, the project goals are to address the following issues:

- Congestion – Currently vehicles traveling in the morning and evening peak hours contend with significant delay. Additional roadway and ramp capacity is needed to reduce the congestion in the corridor.
- Safety – There are a high number of crashes that occur within the study area. These crashes can be attributed to congestion, red light running and the geometry of the interchange ramps.
- Infrastructure – Due to the age of the roadway, upgrades to the roadway and bridges will be needed to accommodate future conditions.

Environmental and cultural resources have been identified for the purpose of concept development. All alternatives were developed to minimize the impact to these resources.

Improvement to this interchange will be a significant undertaking. The study has developed a Master Plan of improvements. Individual projects may be developed to address the most pressing issues within the corridor.

Summary of Alternatives:

In addition to the No Build alternative, two alternatives were evaluated as part of this study. Both alternatives included improvements which were common to each alternative. The alternatives are described below:

Common Improvements

- Add a third through lane on both approaches of SR 141
- Remove extension of Airport Road between SR 141 northbound and SR 141 southbound
- Remove traffic signal at the intersection of Airport Road and southbound SR 141
- Remove the crossover connection opposite the News Journal entrance
- Improve Commons Boulevard intersection by providing an additional eastbound left-turn lane. The eastbound approach of Commons Boulevard would reconfigure to two exclusive left-turn lanes and one shared through/left-turn lane
- Remove eastbound right-turn acceleration lane from Commons Boulevard onto southbound SR 141
- Provide a longer southbound right-turn lane from SR 141 to Commons Boulevard
- Provide crosswalk across SR 141 at the Commons Boulevard intersection

- Provide a shared use path from Commons Boulevard to the south along SR 141
- Relocate Ramp N to lengthen the weaving section between Ramp N and Ramp L
- Improve the geometry of Ramps D-2, H and M

Alternative 1

- Add 3rd thru lane on northbound SR 141 from south of Commons Boulevard to north of the Route 4 ramp
- Add 3rd thru lane on southbound SR 141 from south of the Route 4 ramp to south of Commons Boulevard
- Add new ramp from SR 141 northbound to I-95 northbound and eliminate Ramp F
- Add new connection from SR 141 northbound to I-295 northbound (Ramp D-1)

Pros

- Increases the capacity of SR 141 in both directions
- The new D-1 ramp would allow vehicles from SR 141 northbound to access I-295 northbound, which is currently missing and would reduce traffic at the Route 13 and I-295 interchange
- With the removal of Ramp F, Ramp G would become free flowing

Cons

- The Christina River Bridge would need to be reconstructed by the additional northbound and southbound SR 141 thru lanes
- Additional right-of way would be required
- Major Wetland impacts and environmental mitigation will be needed
- All the four SR 141 bridges over I-95 would need to be replaced
- The proposed ramp from SR 141 northbound to I-95/I-495 northbound would either require a major realignment of I-295 or create a weaving section between the new ramp and the I-95/I-495 split
- The News Journal driveway would have to be relocated to the south in order to provide the deceleration lane for the proposed ramp D-1
- Parking lots near the intersection of Commons Boulevard would be impacted
- The cost of the proposed I-295 northbound ramp may outweigh the number of potential users
- Most expensive alternative

Alternative 2

- Add 3rd thru lane on SR 141 northbound from south of Commons Boulevard to south end of bridge over Christina River
- Add 3rd thru lane on SR 141 southbound from Ramp K to south of Commons Boulevard
- Add additional lane on Ramp G to eliminate yield condition with Ramp F
- Combine Ramp E (diverge) with the SR 141 southbound right-turn movement at the Airport Road intersection
- Lengthen the deceleration lane for Ramp F
- Add a new ramp from SR 141 northbound to I-295 northbound

Pros

- Increases the capacity of SR 141 in both the northbound and southbound directions
- Relocated the Ramp E diverge location to the Airport Road intersection would allow for the deceleration length of Ramp E to be increased
- The merge point of Ramp G and Ramp F would be eliminated
- The Christina River Bridge would not be impacted by the proposed widening
- The southbound SR 141 bridge crossing over I-95 southbound would not be impacted by the additional lane
- The new ramp from SR 141 northbound to I-295 northbound would reduce traffic at the Route 13 and I-295 interchange

Cons

- Terminating the 3rd northbound lane prior to the Christina River Bridge will add to the congestion created by the weaving from Ramp M to the Route 4 Ramp
- Additional right-of way would be required
- Wetlands may be affected
- Three SR 141 bridges over I-95 will need to be replaced
- Parking lots near the intersection of Commons Boulevard would be impacted by the additional northbound through lane
- The cost of the proposed I-295 northbound ramp may outweigh the number of potential users
- The News Journal driveway would have to be relocated to the south in order to provide the deceleration lane for the proposed ramp

Workshop Respondents:

There were six (6) people that posted comments on the material presented online as part of the virtual workshop. Comments were divided into two areas of improvement. They were for the Commons Boulevard and SR 141 intersection and the SR 141 and I-95 interchange.

The comments ranged from concern with closing the Airport Road crossover to positive feedback with the regards to making “long overdue” improvements to this important interchange.

Specific responses to the comments are as follows:

1. Respondent 1 – 1st paragraph
 - a. Comment: Removing the crossover at Airport Road will add traffic to other intersections (i.e. Commons Boulevard) creating more delay.
 - b. Response: By removing the ability to turn left onto Airport Road or turn left from Airport Road at SR 141, there will be traffic that will be forced to use the Commons Boulevard intersection. However, this change would be constructed in conjunction with the capacity improvements proposed for the Commons Boulevard intersection. With the proposed improvements, the intersection will be able to accommodate the traffic diverted from Airport Road.
2. Respondent 1 – 2nd paragraph
 - a. Comment: Reducing access on Airport Road will block Commons Boulevard and may cause an increase in crashes on Commons Boulevard. Commons Boulevard is less safe because it lacks shoulders and has curves.

- b. Response: As stated before, the capacity improvements proposed for Commons Boulevard will address the queuing and safety concerns. It is noted that the study conducted concluded that the majority of crashes that occurred at the Commons Boulevard intersection were rear end type which are generally related to congestion. On the other hand, a high percentage of the total crashes that occurred at the Airport Road signal were angle crashes related to red light running. These are generally more severe types of crashes. The study did not look at the safety of Airport Road or Commons Boulevard outside of the intersection limits.
- 3. Respondent 1 – 3rd paragraph
 - a. Comment: The Radisson hotel at Airport Road will soon be occupied. How will people escape the hotel when the area roads flood?
 - b. Response: People will have access to SR 141 southbound. If people need to go northbound, they will need to u-turn at Commons Boulevard.
 - c. Comment: Will traffic from the News Journal and Social Security sites that want to head south on SR 141 be able to use the internal roadway connection to the east leg of the Commons Boulevard? Will traffic be forced to use the interchange ramps to u-turn onto southbound SR 141? Is the level of service improvement worth the inconvenience?
 - d. Response: It is intended to provide a legal pathway for the adjacent properties to access the east leg of the Commons Boulevard intersection. An alternative will be to use the interchange ramps as described. This change is not being proposed as capacity improvement, but as a safety improvement. With three through lanes (in each direction) on SR 141, it is not desirable to maintain the current unsignalized access in the future.
- 4. Respondent 1 – paragraph 4
 - a. Comment: Safety of the Airport Road intersection could be improved by forcing southbound right turns to turn onto Airport Road then turn onto Ramp E from Airport Road.
 - b. Response: The safety issues are related to vehicles exiting Airport Road to turn north onto SR 141. While the proposed alternative does combine the southbound right turn movements from SR 141, it maintains the Ramp E geometry and provides a split for traffic heading towards Airport Road.
- 5. Respondent 1 – paragraph 5
 - a. Comment: The plan ignores the existing bus service to the area.
 - b. Response: While this information was not presented as part of the online material, the existing bus stops were identified as part of the study and the final design will accommodate pedestrian access to the bus stops. Your detailed comments regarding the proper location will be considered as the designers will also be consulting with DTC on this issue.
 - c. Comment: The crosswalks should be on the north and west legs of the intersection.
 - d. Response: The crosswalks were located based on their immediate connections to existing pedestrian facilities and to minimize the impact on the operation of the traffic signal. This will be reevaluated during design.
- 6. Respondent 2
 - a. No Comment
- 7. Respondent 3
 - a. Comment: I object to removing Airport Road crossover. This crossover is safer to use when exiting northbound I-95 and accessing northbound SR 141. Using Ramp D-2 is difficult because of the weaving traffic.

- b. Response: The crash history shows that the crashes at the signalized intersection are far greater and more severe than those associated with Ramp D-2. The proposed improvements to SR 141 and Ramp D-2 will improve the operation of this movement. Specifically, SR 141 will be widened to accommodate three (3) through lanes and the acceleration lane for Ramp D-2 will be lengthened. These improvements will ease the operation of this movement.
- 8. Respondent 4
 - a. Comment: Improvements seem fine, but it is noted that people run the red light during peak periods.
 - b. Response: With the proposed capacity improvements at the intersection, it is expected that this behavior will be reduced.
- 9. Respondent 5
 - a. Comment: In order to address the access from Airport Road to northbound SR 141, create an access from Airport Road to I-295 south of the exit lane for Ramp D-2.
 - b. Response: In order to accomplish this, a new access from Airport Road to northbound I-295 would need to be provided. While this is feasible, it is fraught with many problems. First, it will in effect create a new access to I-295. This type of ramp connection would need to meet certain geometric criteria which would be difficult to meet given the location of the existing roads. In addition, it would be closely spaced with existing ramps. Finally, because it is providing access to I-295, it would most likely change traffic patterns and impact existing local roadways (Airport Road) that are not designed to sufficiently handle the increase in traffic.
- 10. Respondent 6
 - a. Comment: Improvements to this intersection are long overdue.
 - b. Response: This is noted.

SR 141 and I-95 Interchange Improvement

- 1. Respondent 1
 - a. Comment: The additional ramp lane at Ramp F and G will expedite Ramp F but will make it difficult for Ramp G to merge towards I-495 because they will have to negotiate an additional lane.
 - b. Response: Ramp G traffic will have over 1000 feet to merge with Ramp F traffic. The ability to access I-495 was studied as part of this project. From the point the two ramps combine, a vehicle has over 3,000 feet to traverse 2 lanes to access the choice lane that allows for access to either I-95 or I-495.
- 2. Respondent 2
 - a. Comment: Southbound traffic on I-95 is reduced to 1 lane as you approach the I-295 interchange creating congestion and delay on I-95.
 - b. Response: The scope of this study focused on SR 141 mainline and the ramp interchanges with I-95. While we recognize this as an issue, it will not be addressed as part of this project.
- 3. Respondent 3
 - a. Comment: SR 141 needs a lane to provide the connection for people traveling from Prices Corner to New Castle. Currently the left lane is blocked from traffic heading for northbound I-95 and the right lane is blocked by traffic heading for I-295.
 - b. Response: The proposed improvement includes a third through lane that begins at Ramp K. This additional lane combined with the improvements to the ramps such

eliminating the yield condition with Ramp G & F, will greatly improve the roadway operation address the issues cited in the comment.

4. Respondent 4

- a. Comment: The ramp from southbound SR 141 to northbound I-95 has been a long standing problem. Fixing this problem as an initial phase will be a major improvement.
- b. Response: Improvements to this Ramp G & F will be done as an initial phase of the project.

Based on the comments received through the online workshop, DelDOT will be advancing the concept for Alternative 2. As a Master Plan, it will serve as a guide for the planning and design of improvements in phases within the study area.