

SR1, South Frederica Grade Separated Intersection

Welcome

Welcome to the SR1, South Frederica Grade Separated Intersection Public Information Workshop. The goal of this project is to improve public safety by constructing a grade separated intersection in order to eliminate the at-grade intersections along SR1 in the vicinity of South Frederica. Initially identified as part of the SR1 Corridor Capacity Preservation Program, the overall goal of this project is to enhance public safety and preserve capacity by reducing conflict between local and through traffic.

The information presented tonight follows the Department of Transportation's Mission Statement and is the result of on-going proactive initiatives by the Department to enhance safety along Delaware's roadways.

Please review the displays and talk with a project team member to discuss any questions you may have in regards to the proposed improvements. Thank you for your overall interest in the SR1, South Frederica Grade Separated Intersection Project.

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Project Milestones

- MARCH 1991:
 - SR1, Corridor Capacity Preservation Program begins as one of ten FHWA programs nationwide.
- MAY 1992:
 - DelDOT adopts Policy for SR1 Corridor Preservation Plan.
- AUGUST 1992; JUNE 1993; FEBRUARY 1994: MEETINGS WITH REGULATORY AGENCIES
 - Reviewed SR1 Corridor Capacity Preservation Plan.
- JULY 1994: PUBLIC WORKSHOP
 - Presented Corridor Preservation Plan that included: Project Need, Existing Conditions Inventory, Proposed Design Standards, Description of Alternatives, and Proposed Plan.
- JUNE 1996: LEGISLATION
 - Delaware passes legislation to protect corridors (Section 145, Title 17).
- JULY 1996: PUBLIC WORKSHOP
 - Presented Goals and Objectives of Corridor Capacity Preservation Plan and Identified Possible Project Sites.
- OCTOBER 1998: PUBLIC WORKSHOP
 - Presented SR1 Corridor Capacity Preservation Plan and proposed improvements at 10 Project Sites.
- MAY 4, 2000: MEETING WITH REGULATORY AGENCIES
 - Reviewed Preservation Plan, Project Sites and Public Comments.
- AUGUST 2000: MEDIAN CROSSOVER IMPROVEMENTS
 - Improvements to median crossovers from Nassau to SR16 performed under Pave & Rehab Contract.
- APRIL 2001: DESIGN PUBLIC WORKSHOPS
 - Concept Plans for SR1, SR16 Grade Separated Intersection and SR1, Thompsonville Grade Separated Intersection.
- 2004: PROJECT DEVELOPMENT WORKSHOPS
 - Alternatives presented for the SR1, Little Heaven Grade Separated Intersection, SR1, Thompsonville Grade Separated Intersection, SR1, North Frederica Grade Separated Intersection, and SR1, SR9 Grade Separated Intersection Projects.
- MAY 2008: PROJECT DEVELOPMENT WORKSHOP*
 - Alternatives presented for SR1, South Frederica Grade Separated Intersection.

**Construction funding is currently expected to be available in 2012.*



Public Workshop – May 12, 2008



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Objectives for the SR1 Corridor Capacity Preservation Program

There are seven objectives which can help preserve capacity, enhance safety and address specific traffic issues:

1. MANAGE ACCESS - DeIDOT will work with the property owner to find alternate access (i.e. service roads, access to other collector roads, combine entrances with adjacent parcels and street layouts that would stub to future adjacent subdivisions).
2. REFINE SITE DEVELOPMENT PLANS - DeIDOT will work with the property owner to achieve a design that meets the program goals and objectives of both the owner and corridor preservation.
3. ACCESS RIGHTS - By managing property access directly to SR1 and redirecting access to a side road or other collector road, DeIDOT will reduce the number of points vehicles can enter and exit the highway.
4. PURCHASE PROPERTY RIGHTS - By purchasing certain property rights, DeIDOT may compensate the owner for the future value of the property if it were to be developed. The owner is able to retain the property and its current use.
5. COORDINATE CROSS EASEMENTS - If a property is proposed to be developed and the property has access that is compatible with the Corridor Capacity Preservation Program, DeIDOT may require that the development include provisions for providing access to adjoining properties. This is accomplished through the DeIDOT Subdivision Approval process.
6. PURCHASE PROPERTY - (FEE SIMPLE ACQUISITION) - As a last resort, DeIDOT may purchase the property in its entirety or part of it.
7. DEVELOP INDIVIDUAL PROJECTS - DeIDOT can implement projects such as new roads, system modifications, intersection upgrades, transit support, etc. These projects will be considered in conjunction with the Statewide Long-Range Transportation Plan and how they would relate to enhanced safety and service along the corridor.

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Corridor Capacity Preservation Program

Needed to:

- HELP MANAGE LAND DEVELOPMENT BY FOCUSING GROWTH TOWARD ALREADY DEVELOPED AREAS.
- REDUCE THE NEED FOR EXPANSION OF THE TRANSPORTATION SYSTEM.
- ADVANCE THE QUALITY OF LIFE OF DELAWAREANS AND THE DEVELOPMENT POLICIES ADOPTED BY THE CABINET COMMITTEE ON STATE PLANNING ISSUES.

By implementing the Corridor Capacity Preservation Program in accordance with the Delaware Code, Title 17, Section 145 we will be in conformance with Delaware's Statewide Long-Range Transportation Plan (LRTP), the Transportation Investment Plan, and "Strategies for State Policies and Spending" (SSPS).

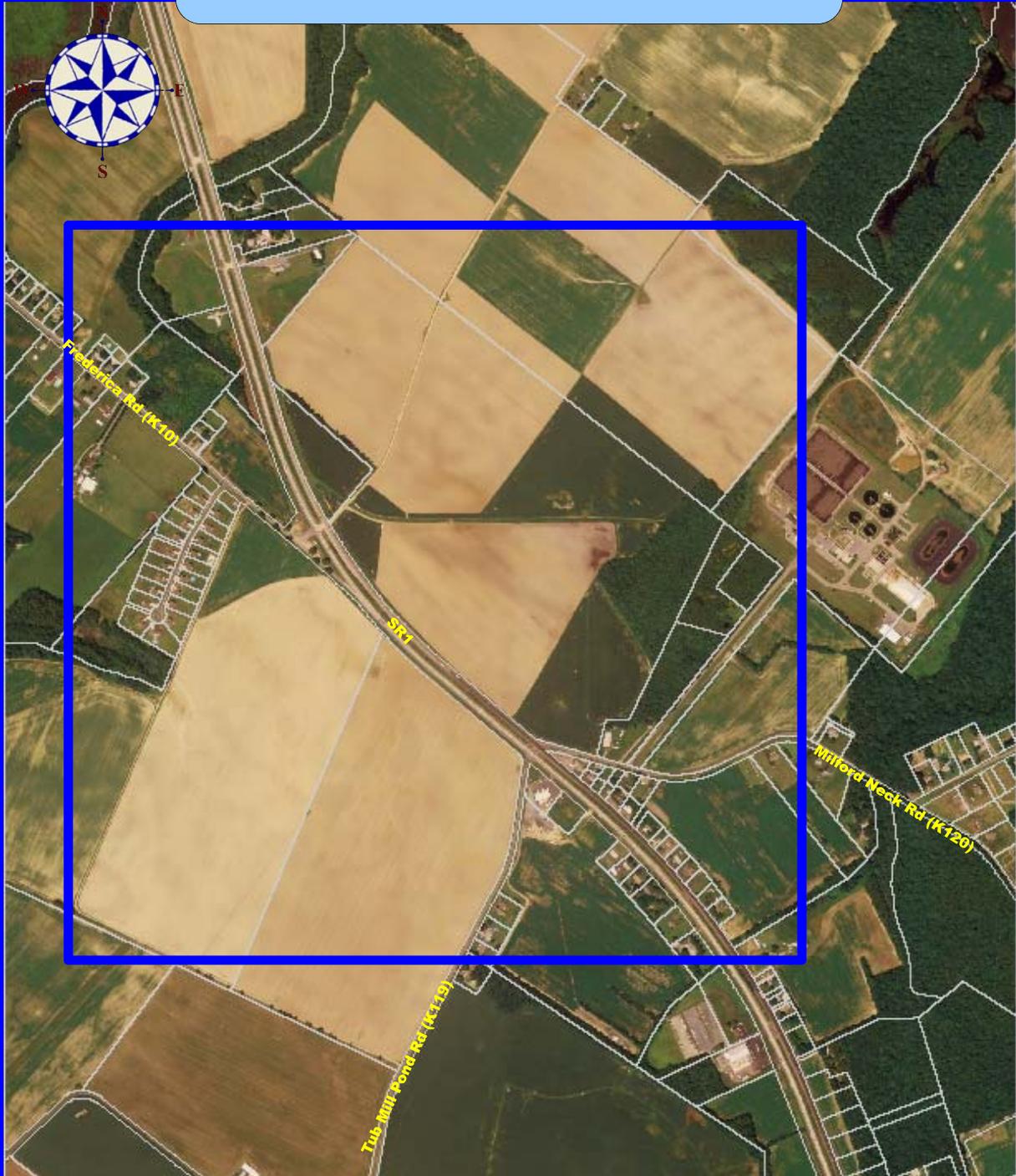
Program Goals:

- MAINTAIN AN EXISTING ROAD'S ABILITY TO HANDLE TRAFFIC SAFELY AND EFFICIENTLY.
- MINIMIZE THE TRANSPORTATION EFFECTS OF INCREASED ECONOMIC GROWTH.
- PRESERVE THE ABILITY TO MAKE FUTURE TRANSPORTATION RELATED IMPROVEMENTS WITHIN THE EXISTING CORRIDOR.
- MINIMIZE THE NEED TO BUILD AN ENTIRELY NEW ROAD ON NEW ALIGNMENT.
- SORT LOCAL AND THROUGH TRAFFIC.

In addition, the Program is designed to maintain the regional importance and intended function of the designated transportation route.

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Location Map



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Existing Conditions

Pictures Taken
December 17, 2007



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Intersection Level of Service

Level of Service - A user's quality of service through or over a specific facility (e.g. over a highway, through an intersection, across a crosswalk). Levels of Service are designated A through F. Level A represents unimpeded flow, which is usually possible when the volume of traffic is small. Level of Service F represents a highly impeded, packed condition.

Level of Service at intersections is a function of the average overall wait time for a vehicle to pass through the intersection. The Level of Service parameter for both a signalized and an unsignalized intersection is *Average Control Delay* measured in *seconds per vehicle*.

The Level of Service characterizes the operating conditions on the facility in terms of traffic performance measures related to speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience.

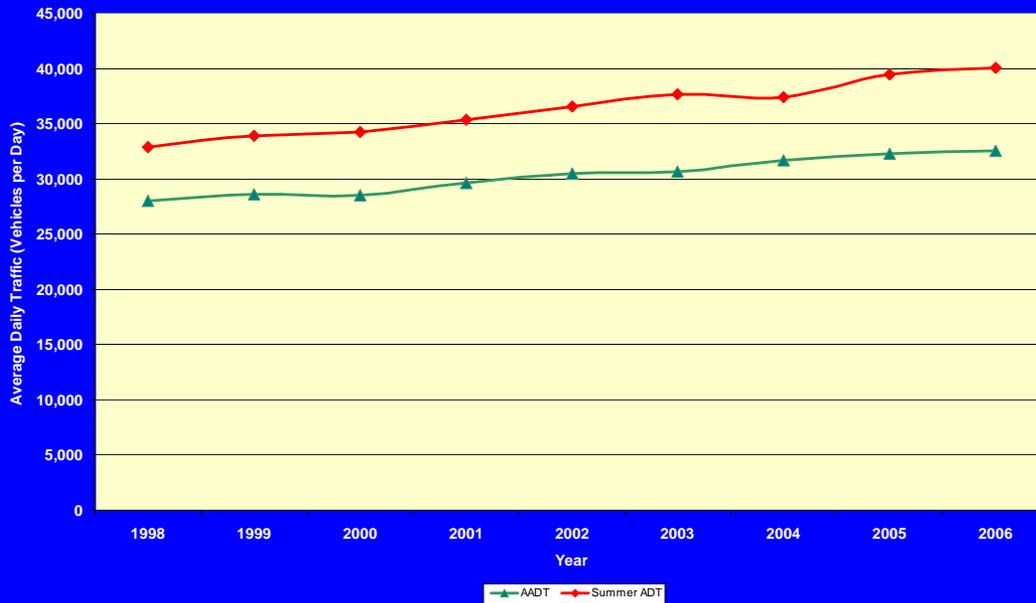
| Level of Service Criteria for Signalized Intersections | |
|--|-------------------------------------|
| <i>Level of Service</i> | <i>Avg. Control Delay (sec/veh)</i> |
| A | ≤10 |
| B | >10 to 20 |
| C | >20 to 35 |
| D | >35 to 55 |
| E | >55 to 80 |
| F | >80 |

| Level of Service Criteria for Unsignalized Intersections | |
|--|-------------------------------------|
| <i>Level of Service</i> | <i>Avg. Control Delay (sec/veh)</i> |
| A | 0 to 10 |
| B | >10 to 15 |
| C | >15 to 25 |
| D | >25 to 35 |
| E | >35 to 50 |
| F | >50 |

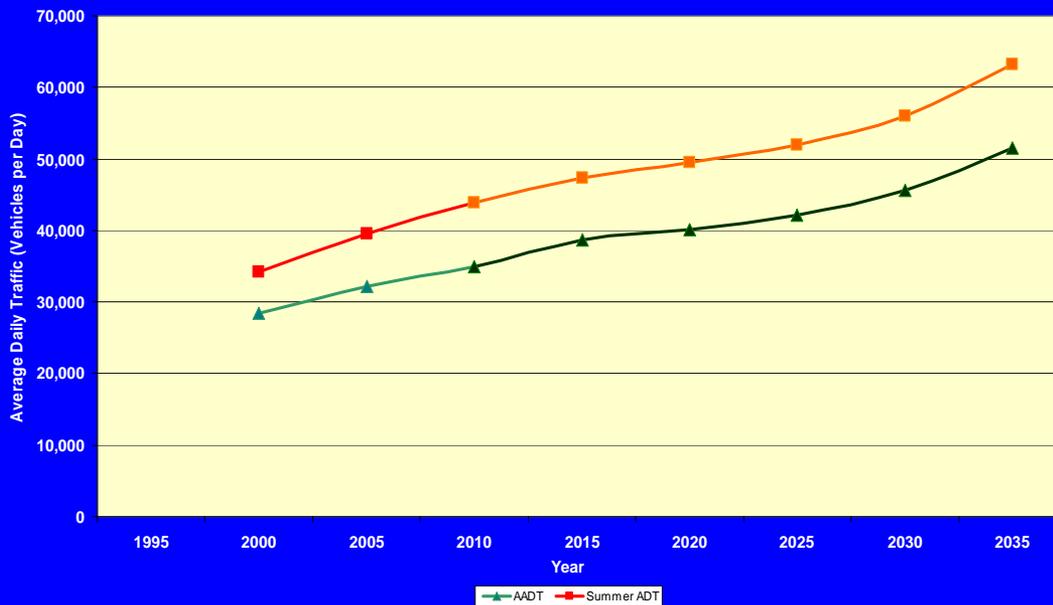
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Existing and Projected Traffic

SR1 AADT and Summer ADT3



SR1 AADT and Summer ADT3



SR1, South Frederica Grade Separated Intersection

Reported Accident Data

Date: December 2004 – November 2007



SR1 Accidents

Sideswipe

Rear

Angle

Other

Subtotal

@ Milford Neck Rd
(K120)/Tub Mill Rd
(K119)

2

1

5

7

15 accidents

@ Frederica Rd
(RT 12)

0

1

0

4

5 accidents

Total Accidents = 20

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Traffic Operational Analyses Assessment of Alternatives

Assessment of Preliminary Alternatives from Traffic Operational Analyses of the Major Intersections for each Alternative under 2035 P.M. Peak Hour Estimated Traffic Conditions

| Preliminary Alternative | Queues | Approach Delays and LOS | Volume to Capacity | Overall Intersection Delay & LOS |
|-------------------------|--|---|---|--|
| A | Little likelihood of queues from major intersections backing up onto SR1. Queue lengths are less than 50% of the lengths from these intersections to their respective ramp gores. | Worst approach delay encountered is 23.2 seconds with an overall level of service C | Worst volume to capacity ratio encountered is 0.73 | Worst delay of 19.9 seconds . Worst overall LOS is B for major intersections. |
| B | Little likelihood of queues from major intersections backing up onto SR1. Queue lengths are less than 50% of the lengths from these intersections to their respective ramp gores. | Worst approach delay encountered is 26.4 seconds with a level of service C | Worst volume to capacity ratio encountered is 0.80 | Worst delay of 24.0 seconds . Worst overall LOS is C for major intersections. |
| C | Little likelihood of queues from major intersections backing up onto SR1. Queue lengths are less than 50% of the lengths from these intersections to their respective ramp gores. | Worst approach delay encountered is 19.7 seconds with a level of service B | Worst volume to capacity ratio encountered is 0.63 | Worst delay of 17.1 seconds . Worst overall LOS is B for major intersections. |
| D | Little likelihood of queues from major intersections backing up onto SR1. Queue lengths are less than 50% of the lengths from these intersections to their respective ramp gores. | Worst approach delay encountered is 24.1 seconds with a level of service C | Worst volume to capacity ratio encountered is 0.77 | Worst delay of 23.0 seconds . Worst overall LOS is C for major intersections. |
| E | Little likelihood of queues from major intersections backing up onto SR1. Queue lengths are less than 50% of the lengths from these intersections to their respective ramp gores. | Worst approach delay encountered is 30.1 seconds with a level of service C | Worst volume to capacity ratio encountered is 0.75 | Worst delay of 20.7 seconds . Worst overall LOS is C for major intersections. |

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Alternatives Summary of Impacts

| FEATURE | UNIT | NO BUILD | ALT. A | ALT. B | ALT. C | ALT. D | ALT. E |
|--|-------------|----------|--------|--------|--------|--------|--------|
| Total Right-of-Way Acquisition | Acres | 0 | 27.77 | 35.01 | 32.50 | 37.98 | 34.88 |
| Commercial (Potential) | Acres | 0 | 0.51 | 0.15 | 0.15 | 0.15 | 6.87 |
| Agricultural | Acres | 0 | 26.90 | 34.32 | 32.00 | 25.84 | 27.60 |
| Residential | Acres | 0 | 0.36 | 0.54 | 0.36 | 11.99 | 6.87 |
| Total # of Properties Affected | Number | 0 | 23 | 24 | 24 | 46 | 24 |
| Residential Displacements | Number | 0 | 0 | 1 | 0 | 17 | 0 |
| Business Displacements | Number | 0 | 0 | 0 | 0 | 0 | 0 |
| Consistent with SR1 CCPP | | No | Yes | Yes | Yes | Yes | Yes |
| Prime Farmland Soils | Acres | 0 | 1.48 | 0.65 | 1.80 | 8.60 | 0.45 |
| Active Agriculture Land | Acres | 0 | 26.9 | 34.3 | 32.0 | 25.8 | 27.6 |
| Public Parks/Recreational Areas | Number | 0 | 0 | 0 | 0 | 0 | 0 |
| Effects on NRE Historic Properties | Number | 0 | 0 | 0 | 0 | 0 | 0 |
| Archeological Sites Impacted | Number | 0 | 0 | 0 | 0 | 0 | 0 |
| Noise (NSA's Impacted) | Number | 0 | 0 | 0 | 0 | 0 | 0 |
| Potential Hazardous Materials Sites Impacted | Number | 0 | 0 | 0 | 0 | 0 | 0 |
| Wetlands Impacted | Number | 0 | 0 | 0 | 0 | 2 | 0 |
| | Acres | 0 | 0 | 0 | 0 | 0.03 | 0 |
| Streams Crossed | Number | 0 | 1 | 3 | 3 | 2 | 1 |
| Stream Impacts | Linear Feet | 0 | 278 | 568 | 568 | 380 | 60 |
| Floodplain Encroachment | Acres | 0 | 0 | 0 | 0 | 0 | 0 |
| Forest Cover | Acres | 0 | 0 | 0 | 0 | 0 | 0 |
| Additional Impervious Area | Acres | 0 | 12.67 | 14.02 | 13.60 | 11.99 | 13.83 |
| Total Project Length | Mile | 0 | 3.28 | 3.62 | 3.17 | 3.09 | 3.54 |
| Estimated Construction Cost | \$ million | 0 | 21.0 | 21.5 | 21.5 | 20.5 | 22.0 |
| Estimated Right-of-Way Cost | \$ million | 0 | 4.5 | 6.0 | 5.5 | 8.5 | 6.0 |
| Total Cost* | \$ million | 0 | 25.5 | 27.5 | 27.0 | 29.0 | 28.0 |

* Total cost includes Right-of-Way and Construction Cost. (Does *not* include Project Development or Engineering Fees.)

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Thank You!

Thank you for taking time to review the information presented tonight. Please visit the project web site www.delDOT.gov/static/projects/southfrederica to keep informed about the status of the project.

Written comment forms are available. Please fill out a form and select the alternative you feel best accomplishes the goals and objectives of the project and the Corridor Capacity Preservation Program. Leave the form in the comment box or mail it to DeIDOT. Your comments are important to us and will be considered along with comments from government and regulatory agencies. Safety and operational requirements will also be taken into account. Therefore, while all comments are considered, not all comments can be incorporated into the project.

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