



Project Planning Study

Purpose of the Meeting

- Introduce the MD 180 / MD 351 Project Planning Study
- Present Preliminary Findings of the Study
 - Purpose and Need
 - Alternatives
 - Environmental Impacts
 - Newsletter Survey Results
- Hear Your Input

Your Input Matters!

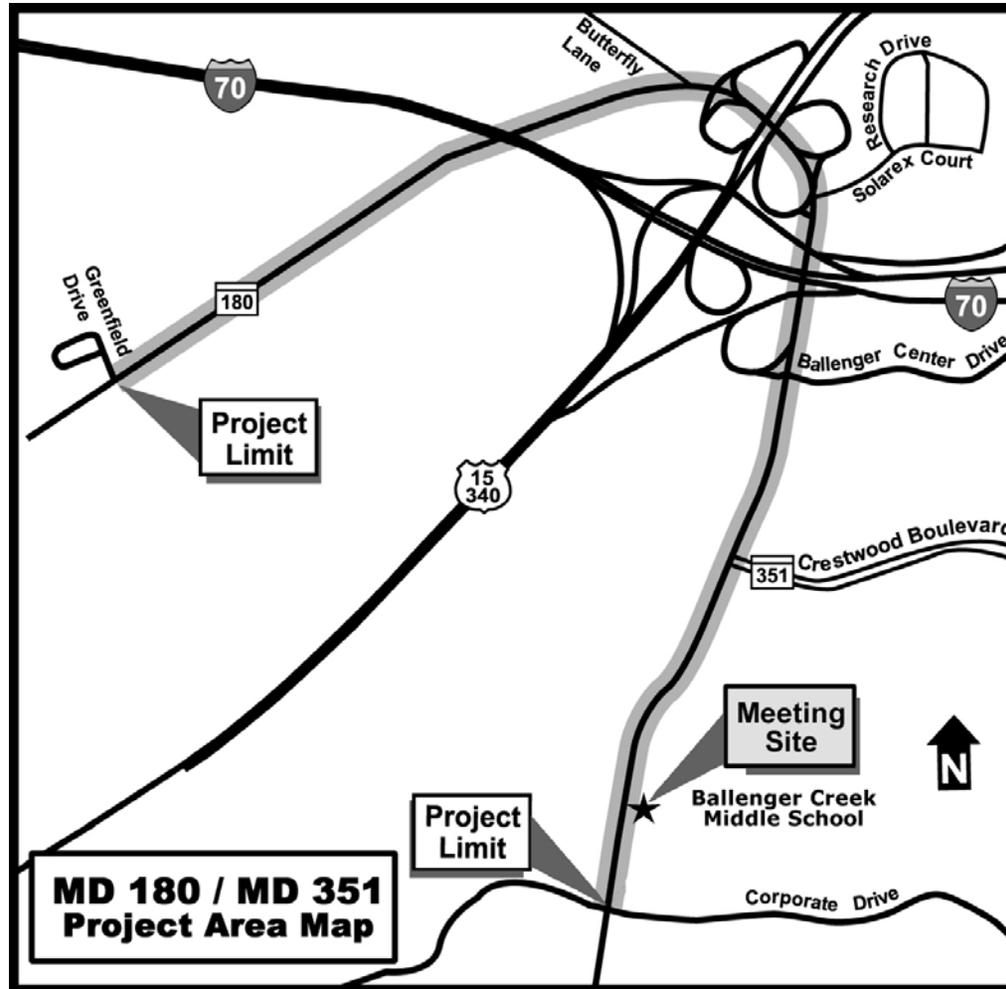
Please provide comments this evening on a comment card or feel free to take one home and return it by mail.





Project Planning Study

Project Location Map

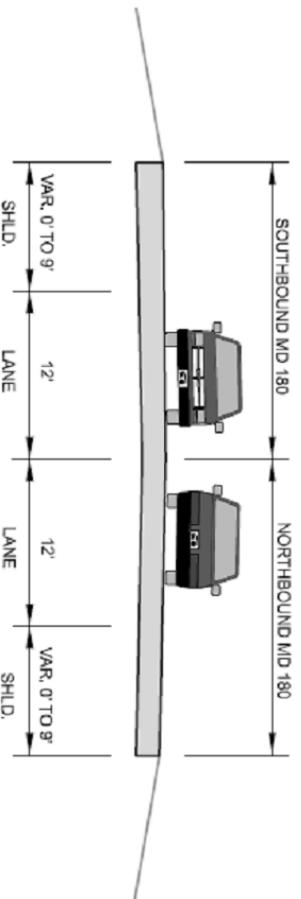




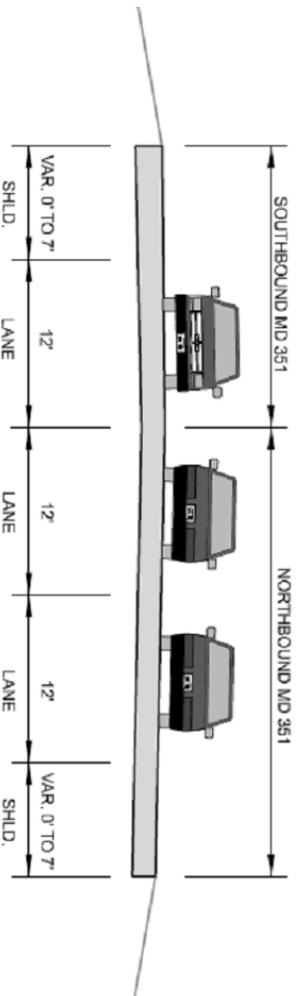
Project Planning Study

Project Background

- The MD 180 / MD 351 study corridor is a 2.7 mile Urban Connector road extending from Greenfield Drive to Corporate Drive
- The roadway provides access to residential, commercial, and industrial development in the area
- Project area located within a Frederick County Priority Funding Area
- The 2002 Frederick Region Plan has designated the corridor for significant planned growth consisting of residential, commercial, and office development



**MD 180 TWO LANE NORMAL CROWN
FROM GREENFIELD DR. TO SOLAREX CT.**



**MD 351 THREE LANE NORMAL CROWN
FROM SOLAREX CT. TO CORPORATE DR.**





Project Planning Study

Project Progress to Date

- February 2006 – Start of Project Planning
- Fall 2006 – Project newsletter and survey mailed
- Fall 2006 – Purpose and Need Concurrence
- April 2007 – Inaugural Stakeholder Group Meeting
 - Stakeholder Group comprised of local business and community representatives
- September 2007 – 2nd Stakeholder Group Meeting





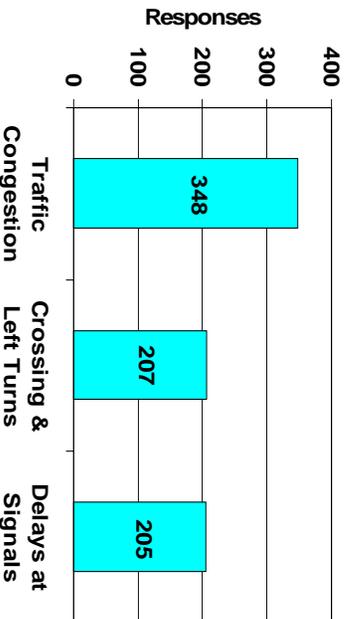
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Newsletter Survey Results

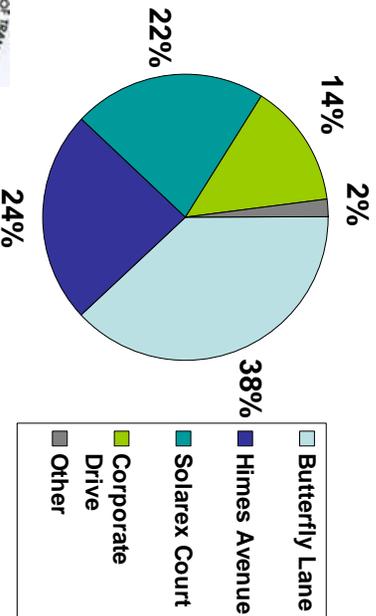
1. What do you like most about this stretch of MD 180 / MD 351?
(i.e. access to highways, malls, and home)
 >50% *It is convenient*
 12% *Nothing*
 3% *Scenic*
 3% *Businesses*

2. What do you like least about this stretch of MD 180 / MD 351?
 41% *Traffic*
 27% *Congestion*

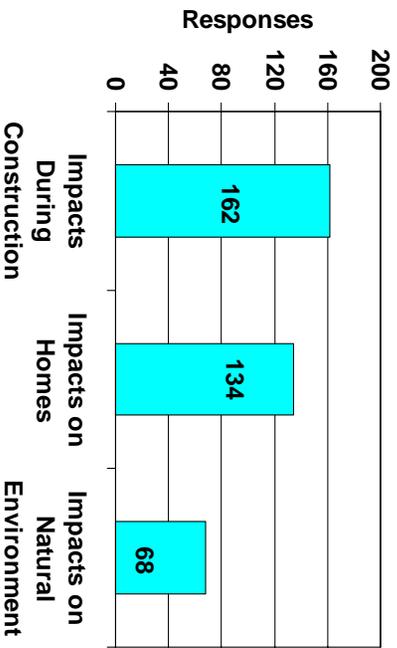
3. What are the top three transportation issues in this area?



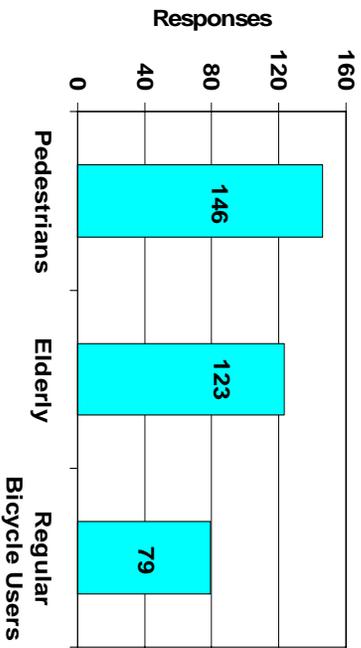
4. Which location along MD 180 / MD 351 has the worst traffic problem?



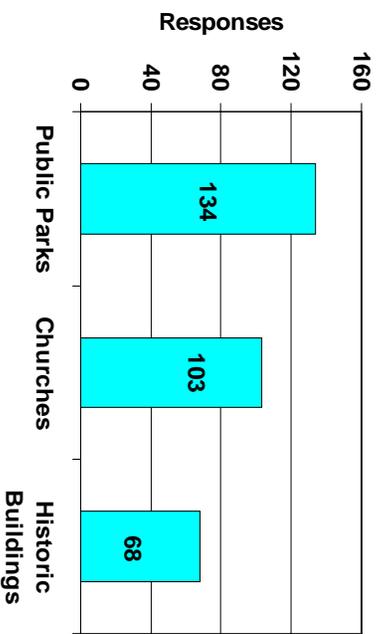
5. Which impacts concern you most?



6. Please identify any groups in this corridor that may have special or unique needs.



7. What are the sensitive natural or community resources in the corridor?





Project Planning Study

Project Purpose

- Improve capacity and traffic operations along MD 180 and MD 351 from Greenfield Drive to Corporate Drive
- Support existing and planned development

Project Need

- Corridor is inadequate to handle existing traffic
- Development in and around the study area contributes to operational and safety deficiencies
- Congestion and high traffic volumes create problems during peak hours

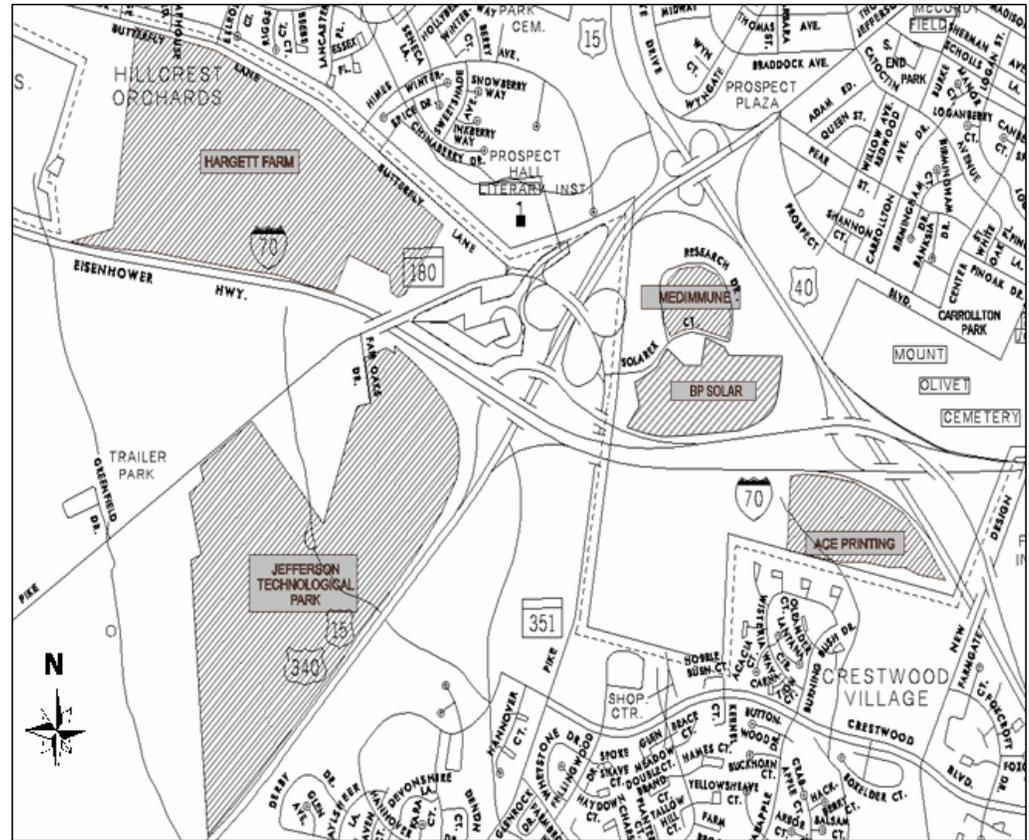




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Land Use and Development

- MD 180 segment – agricultural, industrial, and residential
- MD 351 segment – residential and commercial
- Project located within a planned development area
- Several proposed developments to occur within the study area.





Project Planning Study

Level of Service Analysis

Intersection		Existing Condition (Year 2006)		Alt. 1 No-Build (Year 2030)		Alt. 2 TSM/TDM (Year 2030)		Alt. 3 Four-Lane (Year 2030)		Alt. 3 US 340 Interchange Option A (Year 2030)		Alt. 3 US 340 Interchange Option B (Year 2030)	
		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
MD 180	Greenfield Drive	A	A	B	C	A	C	B	D	B	D	B	D
	Fair Oaks Drive	A	A	A	D	A	B	A	A	A	A	A	A
	Butterfly Lane	A	B	D	F	D	D	D	E	B	D	B	D
	Himes Avenue / Ramp from Southbound US 15/ 340	B	D	F	F	F	F	F	F	C	E	C	E
	Ramp from Northbound US 15/ 340	E	C	F	F	F	F	F	F	B	B	C	D
	Solarex Court	F	F	F	F	F	F	F	F	F	F	E	D
MD 351	Ballenger Center Drive./ Ramps to I-70	B	B	F	F	C	D	C	B	C	C	D	C
	Crestwood Boulevard	D	D	F	F	F	F	E	D	E	D	E	D
	Hannover Drive	A	A	F	F	B	D	C	C	C	C	C	C
	Corporate Drive	C	B	F	F	F	C	E	B	E	B	E	B





Project Planning Study

Annual Average Daily Traffic

Roadway Segments		2006	2030 No-Build	% ¹ Increase	2030 Build	% ² Increase
MD 180	South of Greenfield Drive	3,800	18,540	388	19,580	415
	Between Greenfield Drive and Fair Oaks Drive	3,900	18,620	377	19,680	405
	Between Fair Oaks Drive and Butterfly Lane	3,950	18,720	374	19,760	400
	Between Butterfly Lane and Himes Avenue	12,000	30,720	156	32,260	169
	Between Himes Avenue and Solarex Court	22,650	42,350	87	47,570	110
MD 351	Between Solarex Court and Ballenger Center Drive	24,550	41,115	67	41,365	68
	Between Ballenger Center Drive and Crestwood Boulevard	23,500	32,220	37	34,680	48
	Between Crestwood Boulevard and Hannover Drive	14,100	24,520	74	26,520	88
	Between Hannover Drive and Corporate Drive	12,250	21,020	72	23,020	88
	South of Corporate Drive	8,250	20,000	142	22,000	167

¹ = percent increase from 2006 to 2030 No-Build
² = percent increase from 2006 to 2030 Build





Project Planning Study

Crash Summary

Crash data for MD 180 / MD 351 collected from 2003 through 2006 indicates that:

- MD 180 (Jefferson Pike) experienced left-turn and angle collisions at a rate significantly higher than the statewide average for similar roadways
- MD 351 (Ballenger Creek Pike) experienced opposite-direction, left-turn and angle collisions slightly higher than the statewide average

Crashes	MD 180 (Jefferson Pike)					MD 351 (Ballenger Creek Pike)								
	2003	2004	2005	2006	Total	2003	2004	2005	2006	Total				
Fatal	-	-	-	-	-	0.0	1.2	-	-	-	0.0	1.0		
Injury	6	5	3	13	27	53.4	83.3	9	9	-	3	21	92.2	122.6
Persons Injured	15	16	9	27	67	-	-	18	11	-	7	36	-	-
Property Damage	7	10	6	10	33	77.0	98.1	8	16	1	8	33	144.9	153.3
Total Crashes	13	15	9	23	60	130.25	182.6	17	25	1	11	54	237.1	276.9
Left Turn	4	2	2	8	16	31.0*	14.4	5	1	-	4	10	43.9	26.6
Angle	4	9	2	7	22	50.7*	31.6	2	7	1	2	12	52.7	48.9
Opposite Direction	-	1	1	-	2	5.9	10.8	-	4	-	-	4	17.6	12.1

* Significantly higher than the statewide average





Project Planning Study

Purpose of Traffic Simulation Analysis

What is it?	Animated view of existing and future traffic conditions
Why do we use it?	Travel-forecasters use computer simulations to portray how proposed improvements will perform at projected traffic volumes
What are the benefits?	Simulates the traffic flow and its interaction with other vehicles and roadway traffic controls



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Alternatives Under Consideration

- Alternative 1: No-Build
- Alternative 2: TSM / TDM
- Alternative 3: Four-Lane Divided
 - MD 351 Five-Lane Section Option
 - US 15/US 340 Interchange Option A
 - US 15/US 340 Interchange Option B





Project Planning Study

Alternative 1: No-Build

- Aside from the addition of three new traffic signals at northbound US 15/US 340 off ramp, Hannover Drive, and Corporate Drive, there are no substantial improvements other than normal maintenance.
This alternative does include required developer improvements

Alternative 2: TSM / TDM

- Transportation System Management (TSM)
Improvements that increase safety and enhance operations
- Transportation Demand Management (TDM)
Strategies that focus on system demand and techniques to change drivers' behavior

In addition to the No-Build improvements, this alternative includes synchronization of traffic signals and geometric improvements at key intersections and along sections of MD 180 / MD 351

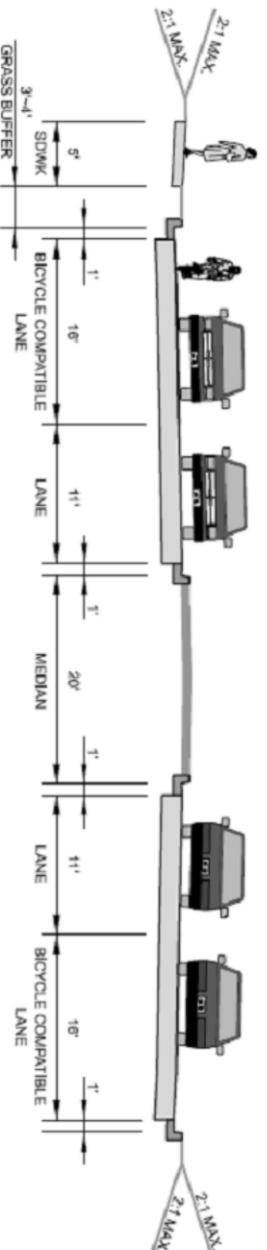
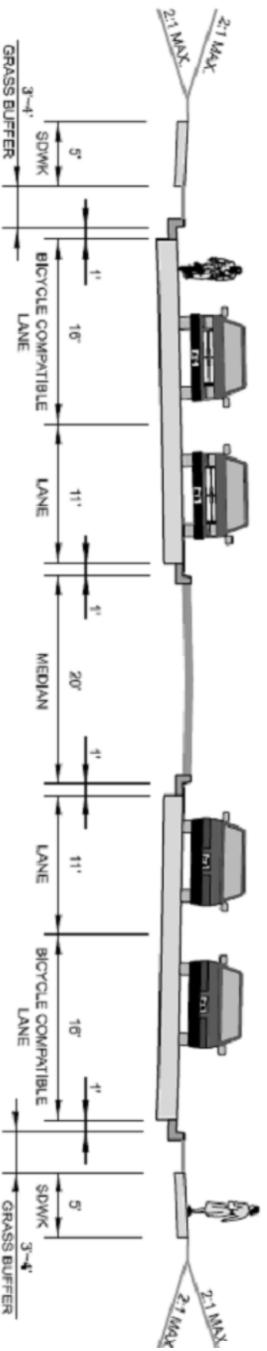




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Alternative 3: Four-Lane Divided

- Two-lanes in both travel directions
- Additional turning lanes at intersections and median openings
- Wide outside lanes to accommodate bicycle traffic
- 20-foot center median
- Sidewalks along both sides of roadway expect between US 15/US 340 and I-70 ramps on south side of roadway

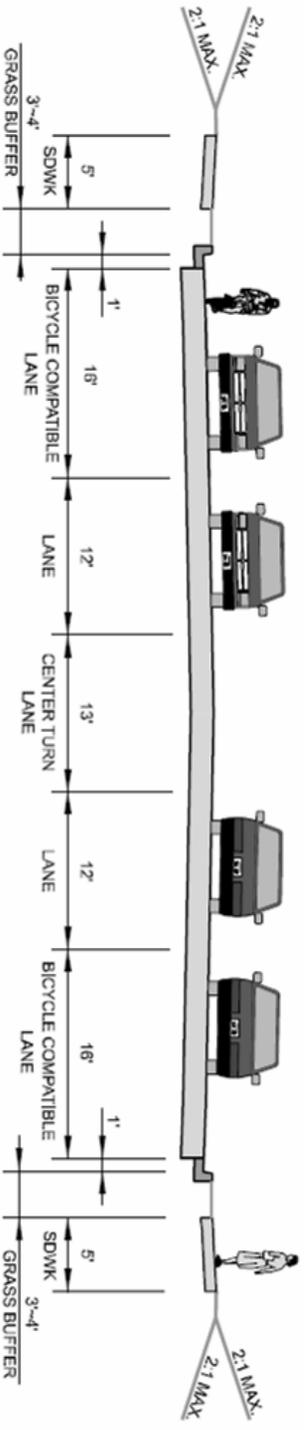




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MD 351 Five-Lane Section Option

- Widen MD 351 from Crestwood Boulevard to Corporate Drive to a five-lane roadway with two through lanes in both directions and a 13-foot center turn lane



MD 351 FROM CRESTWOOD BLVD. TO CORPORATE DR.

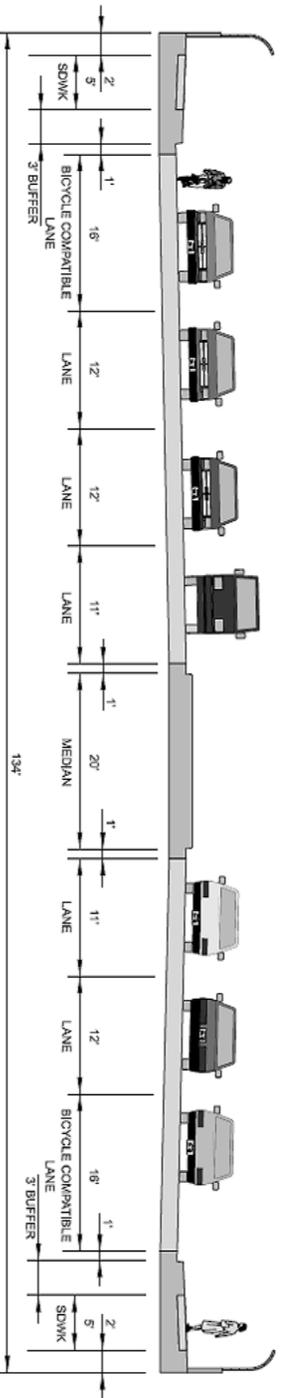




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US 15/US 340 Interchange Option A

- Two additional southbound auxiliary lanes and one northbound auxiliary lane between Himes Avenue and the northbound US 15/US 340 off-ramp.
- Three loop ramps widened
- An auxiliary lane along northbound US 15/US 340 ties into the I-70 exit ramp.
- The auxiliary lane along the southbound US 15/US 340 collector-distributor road is carried through the interchange



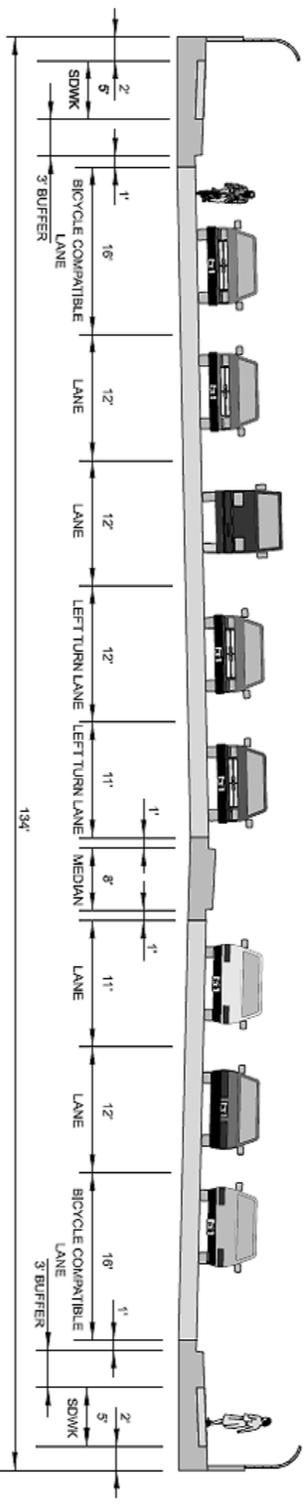
Bridge over US 15 / US 340



Project Planning Study

US 15/US 340 Interchange Option B

- Includes the improvements of Option A
- Removes two loop ramps and replaces with ramps to form a half-diamond interchange on northbound side of US 15/US 340



Bridge over US 15 / US 340





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Environmental Impacts

Environmental Impacts	Alternative 1 No-Build	Alternative 2 TSM/TDM	Alternative 3 Four-Lane Divided and Three Options
Residential Displacements	0	0	1
Stream	0 feet	50 feet	415 feet
Wetland	0 acre	0.4 acre	0.5 acre
Floodplain	0 acre	0.2 acre	1.1 acres
Public Parks <i>Ballenger Creek Park</i>	0 acre	0 acre	1.1 acres
Significant Historic Resources <i>Prospect Hall</i> <i>Maple Homestead Property</i>	0 acre 0 acre	0.02 acre 0.0 acre	0.1 acre 0.9 acre
Total Right-of-Way	0 acres	4.6 acres	17.2 acres
Total Cost (Million \$)*	0	115 - 125	200 - 250

* 2020 Dollars





Project Planning Study

Related Projects

- I-70 Improvement Projects (SHA)
- I-270 / US 15 Multi-Modal Corridor Study (SHA)
- Butterfly Lane (City of Frederick)





Project Planning Study

Next Steps

Alternatives Retained for Detailed Study

Winter 2007 / 2008

Location / Design Public Hearing

Fall 2008

Location / Design Approval

Fall / Winter 2009



Project Planning Study

Figure 4: City of Frederick, Maryland Comprehensive Plan Map, 2004

