



Woodstock Route 42 Corridor – Public Input Meeting

Town of Woodstock

03.01.18

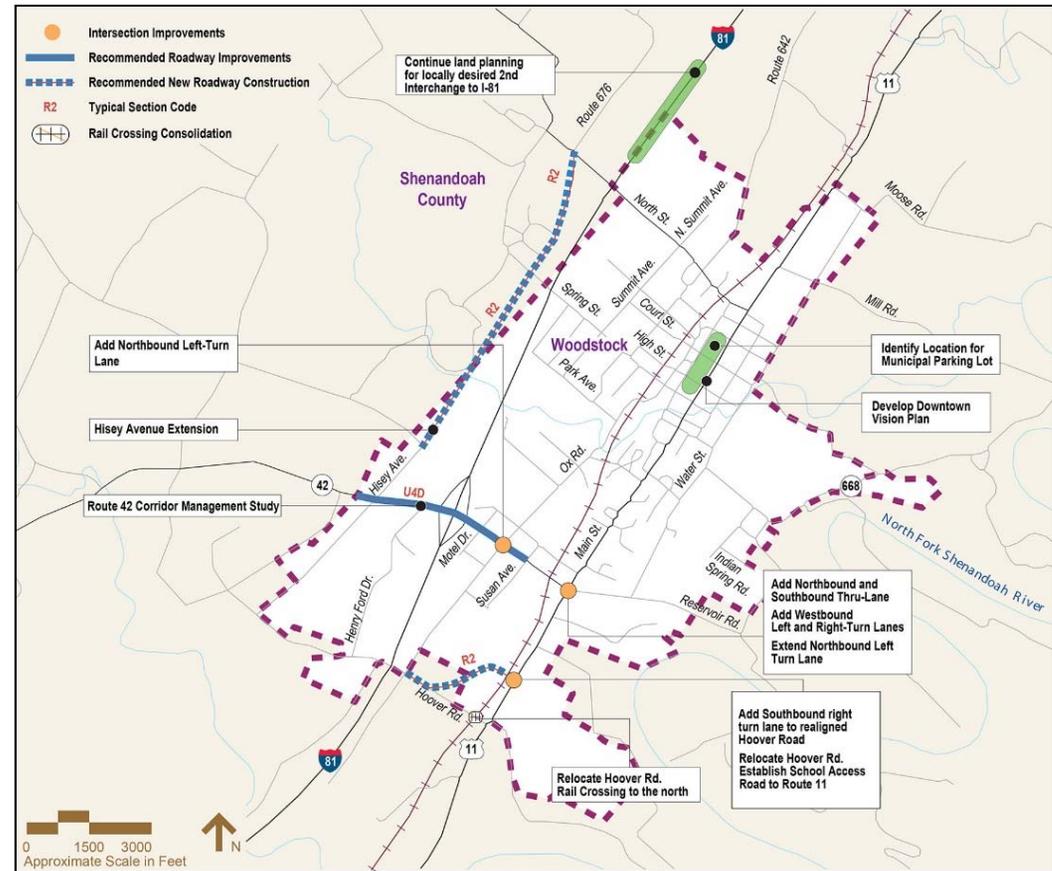
How we got here...

Route 42 – Town of Woodstock

- Provides direct connectivity between Woodstock / US 11 and the Interstate 81 corridor - “Town Gateway”
- Commercial corridor serving local, regional, and interstate users
- Has experienced periods of significant development over the past 20 years
- Increase in traffic due to development growth may result in negative operational and safety impacts to the corridor

How we got here...

- 2007 Small Urban Area Transportation Study identified the need and recommended a separate Route 42 corridor study
- VDOT STARS program identified the Route 42 corridor as a study candidate in 2016



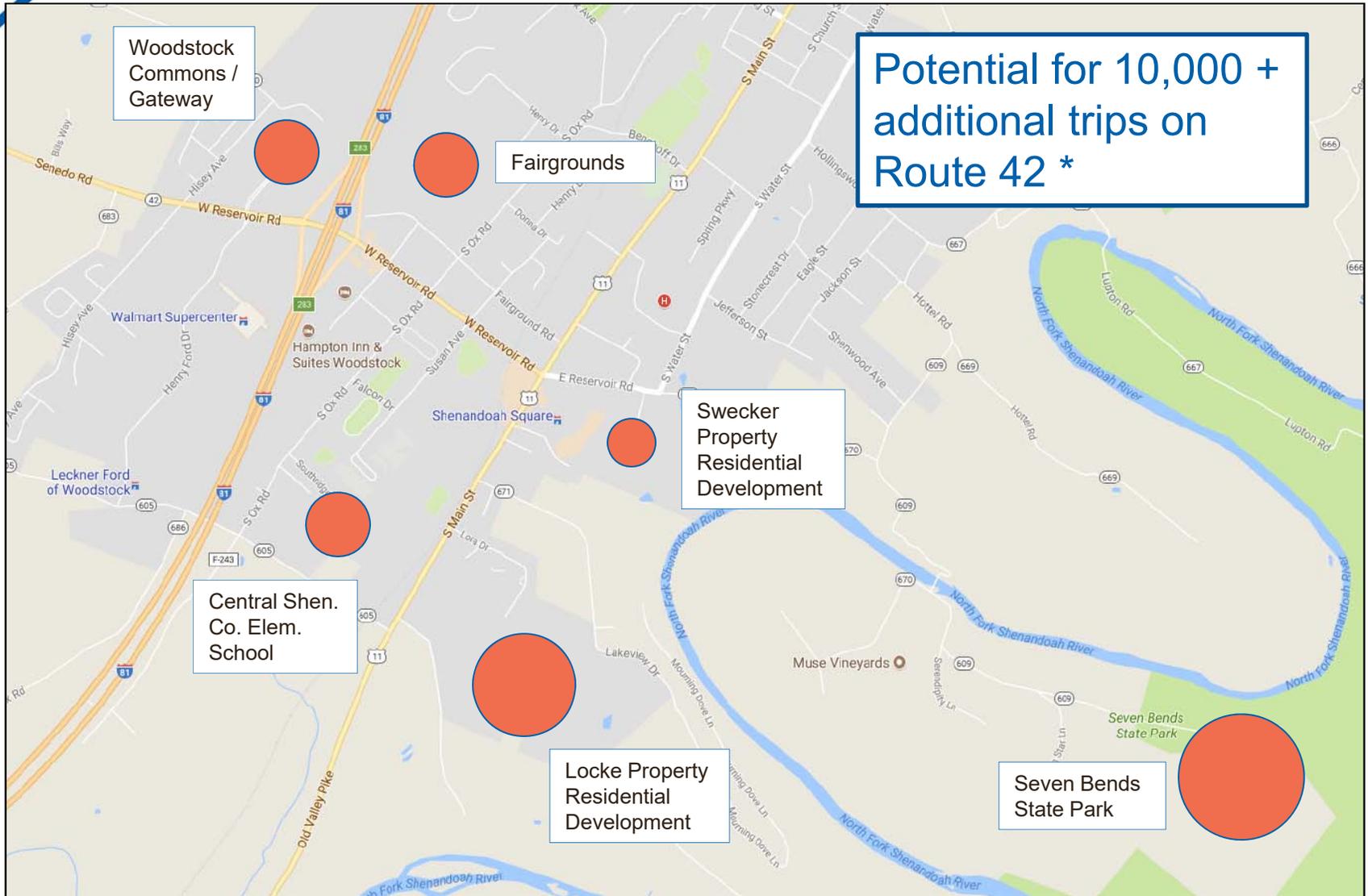
Corridor Study Area



Corridor Traffic Volumes



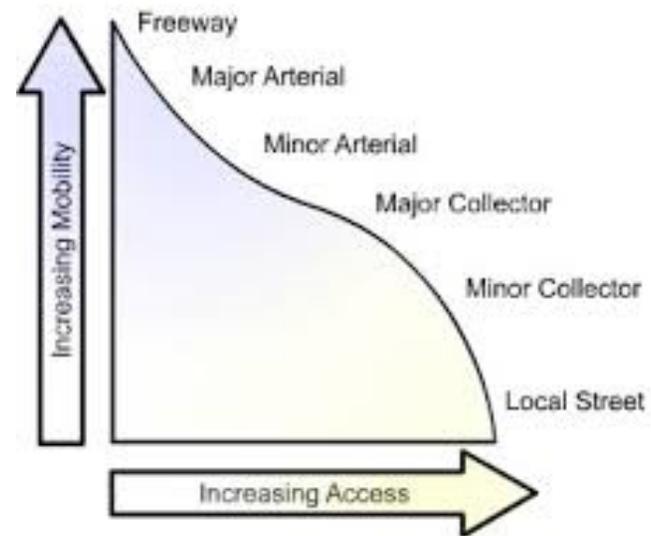
Future potential growth...



* Based on ITE Trip Generation Rates and assumptions from previously submitted TIA studies

Roadway Characteristics

- Functional Classification - Route 42 is classified as a Major Collector facility
- Intended to provide a balance between access and mobility
- Intersection and entrance spacing and design becomes critical in maintaining efficient and safe roadway operations



Roadway Characteristics

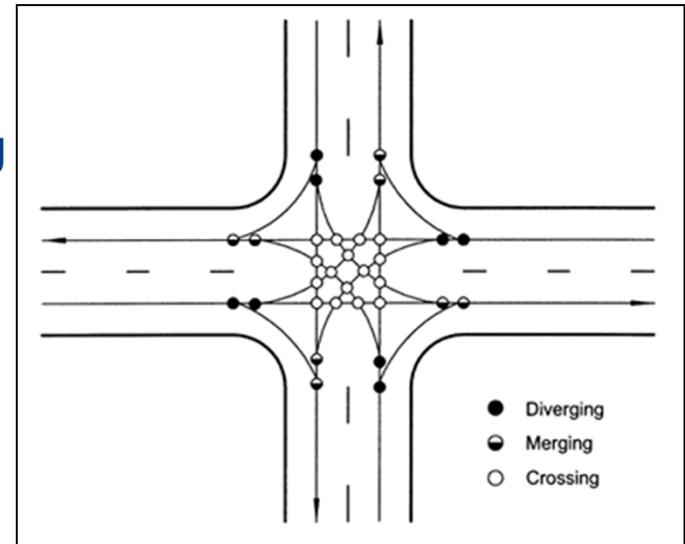
Route 42 – 35 mph, major collector, 1-mile segment

- VDOT and national best practice standards recommend the following intersection / entrance spacing scenarios:
 - 1) 7-8 signalized / unsignalized intersections, 6 full access entrances
 - 2) 4-5 signalized / unsignalized intersections, 9 full access entrances

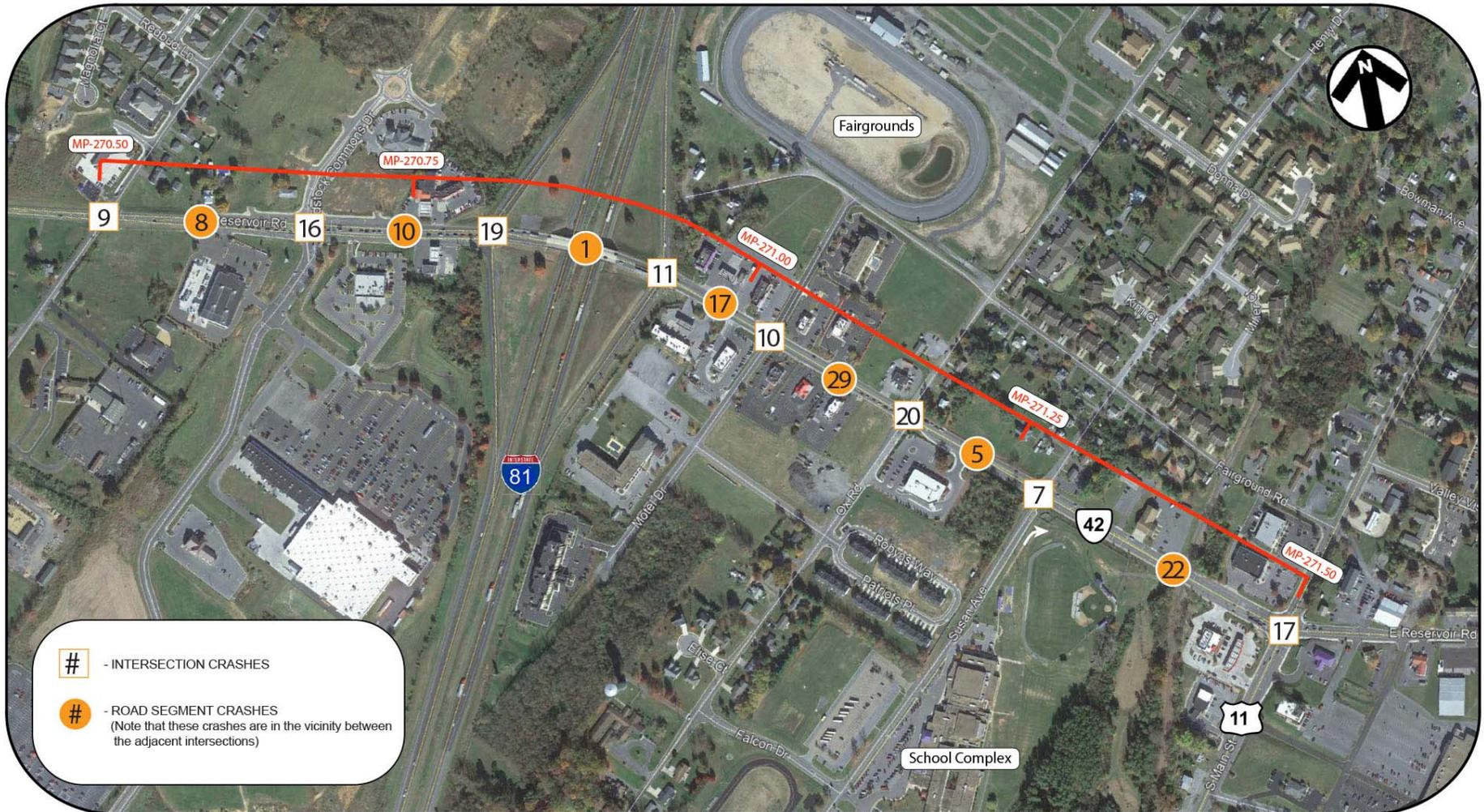
Approximately 14 total intersections / entrances

- Existing Route 42 study area:

6 signalized, 2 unsignalized intersections, 21 full access and 3 partial access entrances =
32 total intersections / entrances



Each full access intersection / entrance contains 32 separate conflict points





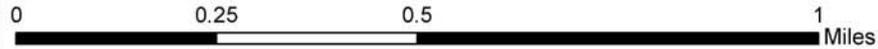


VDOT STARS Data

Corridor L—Route 42/Route 7—Route 42: 270.65 - 271.63;
Route 7: MP 0.00 - 0.28, From Hisey Avenue to S Water Street (Route 9)



Project Development Corridor



Planning	Corridor Length (mi)	1.26
	CoSS Corridor	No
	Urban or Rural	Urban Cluster
Safety	SYIP Project/HB2 Project/SMART SCALE	No
	2011-2015 Crashes	200
	Max PSI Segment Rank	155
Operations	Max PSI Intersection Rank	2
	Max V/C Ratio (2015/2030)	0.38/0.63
	Max TTI Percentile (2015 AM/PM Weekday)	0.91/0.98
	Max TTI Percentile (2015 AM/PM Weekend)	0.83/0.93
	Duration of Congestion (Hours)	0

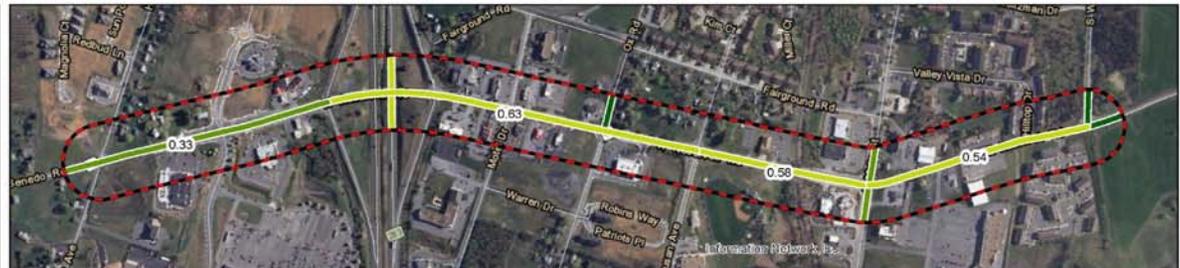
PSI District Ranking

- Segments
- Intersections



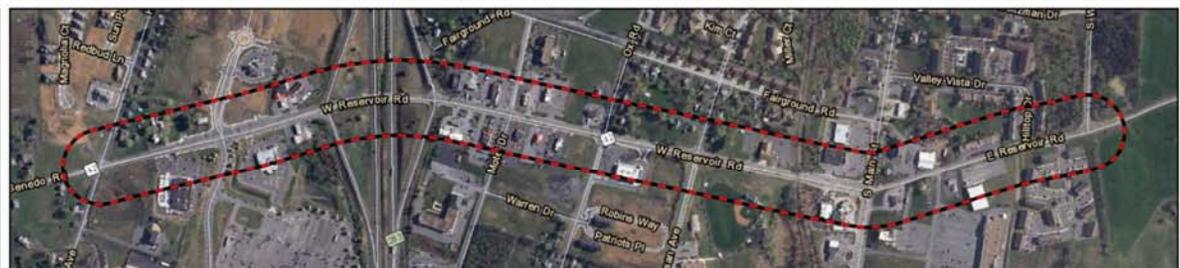
V/C - 2030

- 0 - 0.25
- > 0.25 - 0.50
- > 0.50 - 0.75
- > 0.75 - 1.00
- > 1.00 - 1.25
- > 1.25



Duration of Congestion (Hours)

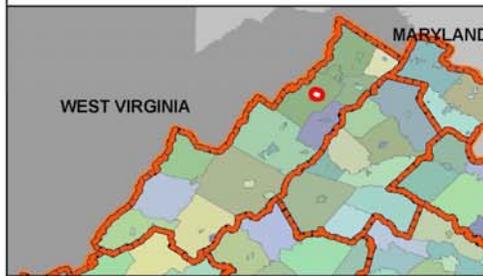
- 0 - 1
- > 1 - 2
- > 2



Notes:

PSI = Potential for Safety Improvement

Location Map - Staunton District
Town of Woodstock



VDOT Projects

SYIP

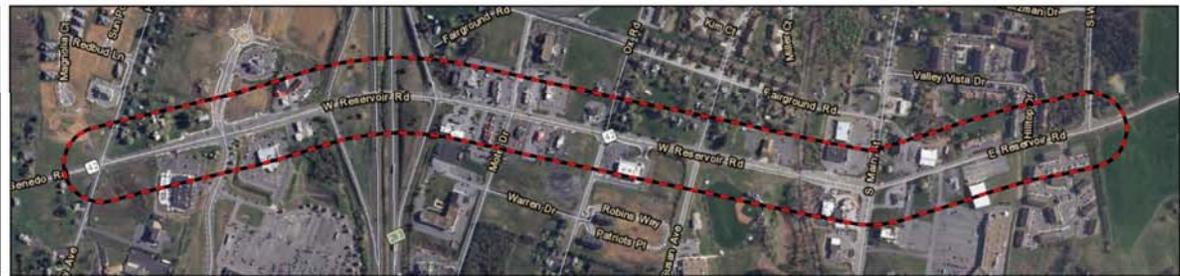
- Segments
- Intersections

HB2

- Not Funded
- Funded

SMART SCALE

- Not Funded
- Funded



Access Management

Coordinated planning and design of access between roadways and land development to preserve the safety and efficiency of travel.

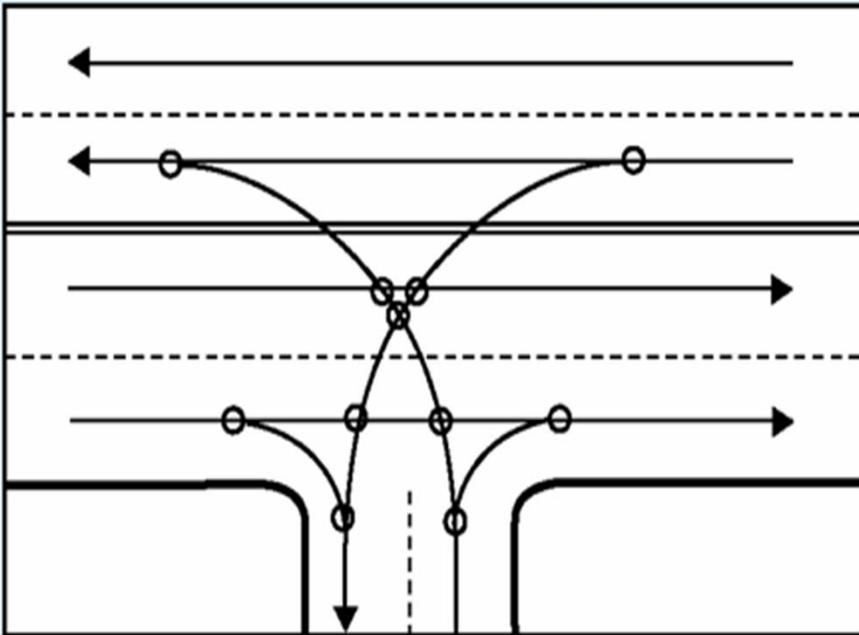
Consolidation of access points and a reduction of conflicting turning movements results in:

- Enhanced safety
- Better traffic operations (capacity and speed)
- Opportunity for pedestrian / bicycle improvements
- Opportunity for aesthetic / gateway improvements

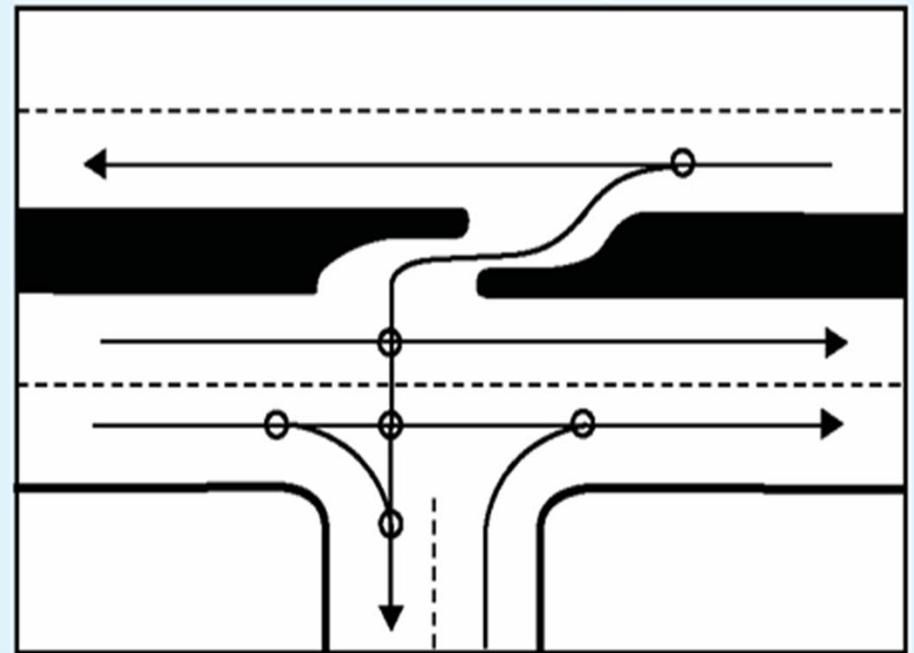
Access Management

More *conflicts* means more *crashes*

Before Access Management



After Access Management



Full Access, 4-leg Intersection = 32 conflict points

Left turn movements result in a higher percentage of severe injury crashes

Woodstock Route 42 Potential Corridor Treatments

Access Management

...means coordinating planning and design of access between roadways and land development to preserve the safety and efficiency of travel



Closely spaced and poorly defined entrances can slow traffic flow and decrease safety for all road users

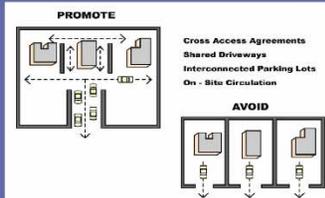
What We Want to Avoid....



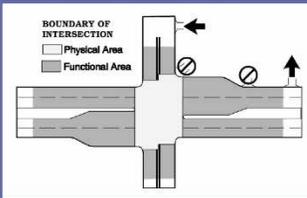
- Widening to add capacity results in,
 - significant property and utility impacts resulting in higher costs
 - full access movements increase in difficulty, adding to safety concerns
- further detriment to town "gateway" sense of corridor

Safety and efficiency can be improved using access management techniques as an alternative to traditional widening...

Connect Adjacent Developments to Reduce Conflict Points



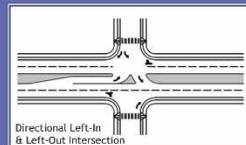
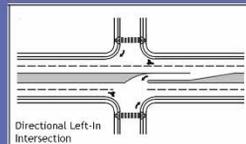
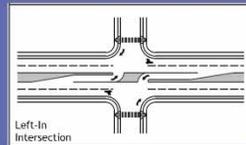
Push Entrances Away from Intersection to Avoid Conflicts with Queued Vehicles



Utilize Roundabouts to Reduce Conflict Points and Accommodate U-Turn Movements



Partial Access Intersections to Reduce Conflict Points



Reduce Left Turn Movements with Medians



Pedestrian & Bicycle Accommodations

Bicycle Facilities On-Road Bicycle Lanes



Bicycle Facilities Off-Road Shared Use Path



Limit Pedestrian & Bicycle Conflicts at Entrances



Improve ADA Sidewalk Network & Buffer Space



Crosswalk Improvements & Median for Refuge Area



Other Considerations

Medians and Sidewalk Buffer Space Provides Aesthetic Enhancement Opportunities



Traffic Signal Timing Evaluation



Woodstock Route 42 Potential Corridor Treatments

Roundabout



Roundabout at Carlton St. and Reservoir St. Harrisonburg, Va

- 75% reduction in intersection conflict points over a traditional 4-leg intersection
- Potential to reduce overall intersection delay with yield vs. stop condition
- Splitter Islands provide refuge islands for improved pedestrian crossings
- Accommodates U-Turn movements related to upstream partial access intersections

- Roundabout center island provides landscaping / aesthetic opportunities
- Roundabouts can be designed to accommodate heavy vehicle movements with truck apron



Unsignalized Florida T Intersection



Route 285, I-64, Exit 91 Fishersville, Va

- Project included a shared use path

- Full Access design option for 3-leg intersections with reduced conflict points
- Flexibility to be converted into a future reduced phase signalized intersection



Partial Access Reduced Conflict U-Turn Intersection



US 33 Partial Access Intersection Harrisonburg, Va

- Full access intersection becomes a right-in, right-out, left-in intersection, reducing conflict points
- Left-out movements must take a right and perform a U-Turn movement at a downstream intersection

Pre-Improvement Condition



- Shared use path along US 33

Access Management

Do Access Management Projects
Harm
Business?

Businesses fail at no higher
rate on roadways with new
access management
improvements

*Study of Business Turnover
Median reconstruction projects in Orlando metro area*



Access Management

How Do Customers Respond to Access Management?

Your customers favor access managed highways 4 to 1.

The Driver Survey

78% felt safer

84% felt traffic moved better

Drivers surveyed along 5 improved corridors in Central Florida FDOT District 5 (Ivey Harris & Walls - 1995)

People shop for value and price, even at businesses considered as “convenience”

People avoid places where left turns are risky

Adapted from:
Public Information Meetings For
Access Management Projects
David W. Gwynn, Jr., P.E.
TEI Engineers & Planners

Access Management



**Better
traffic flow**



Safety



**More
customers
driving by**

What Are the Positive Business Impacts?

Goals of a Route 42 Corridor Study

- Collaborative and supported effort between town representatives, corridor stakeholders and VDOT
- Develop a corridor plan that identifies future improvement recommendations that address operational, safety, and gateway treatment needs
- Improvement recommendations will address all users of the corridor, including bicycle and pedestrians
- Supporting study analysis and data can be utilized by the town to prepare and submit applications for transportation funding to implement identified recommendations



Visual Preference and Public Input Survey

We Want Your Feedback!

- Dot Exercise – Place dots on the display boards to indicate corridor treatments you prefer
- Aerial Maps of Corridor – Indicate areas of concern and needs or improvement ideas with comments on provided maps
- Comment Box – We encourage you to fill out the provided comment sheets (place in comment box or send through mail)
- Engage – Share your thoughts with town and VDOT representatives as you review the provided corridor information