



Transportation and Land Use Policy Considerations

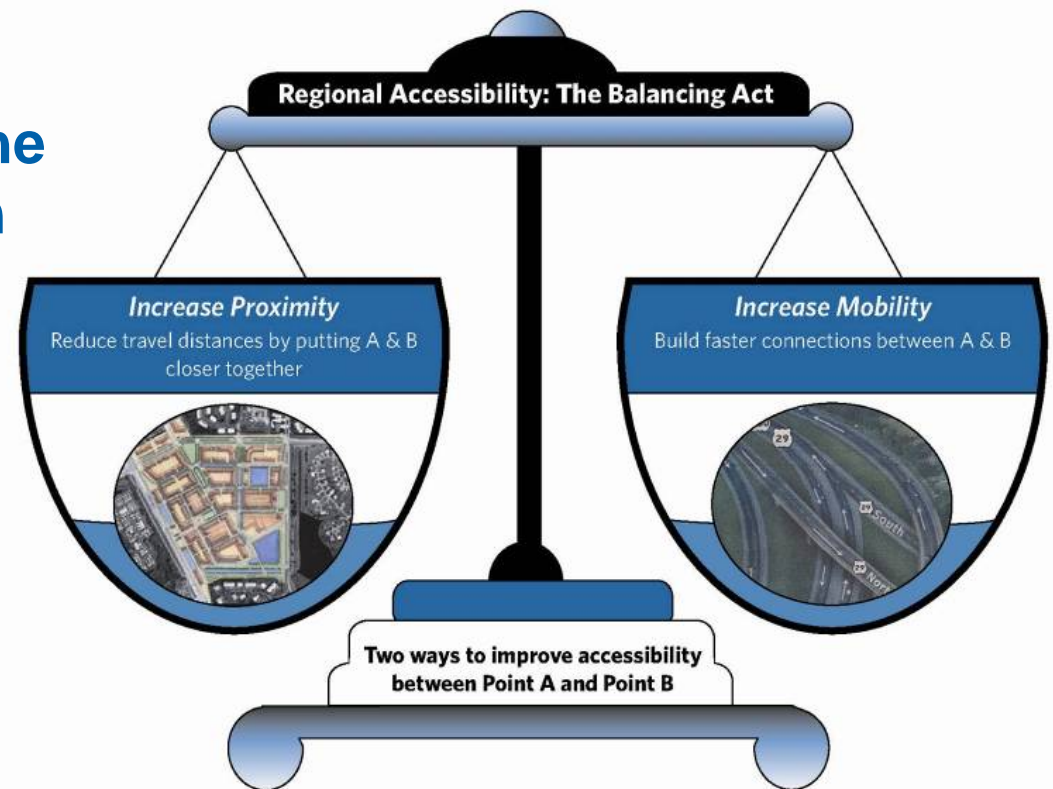
**CTB Workshop
October 14, 2009**

Assistant Secretary Nick Donohue

Transportation investments help facilitate and shape economic development

The amount and form of development influences the demand for transportation investments

Poor balance between transportation and land use results in higher costs for less benefits



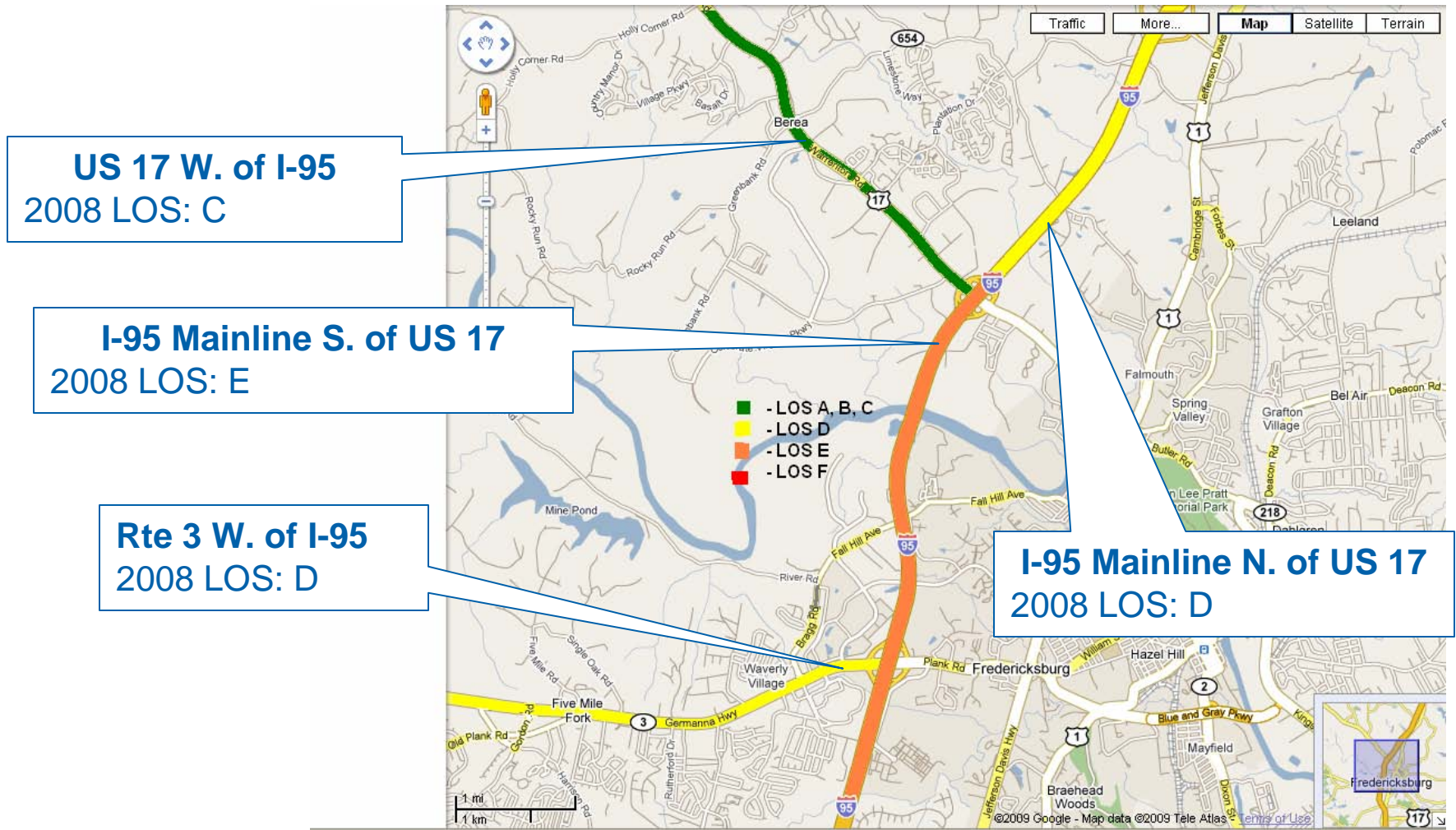
Transportation and Land Use: What Has Been Accomplished

- **Traffic Impact Analysis** – information for citizens and local decision makers
- **Access Management** – preserve public investment in existing highways
- **Secondary Street Acceptance Requirements** – ensure streets accepted for maintenance provide public benefit
- **Urban Development Areas** – encourages development that reduces impact on transportation network
 - CTB planning grant applications will be solicited in coming weeks
- **Regional Performance Measures** – transportation and land use performance measures for urban areas; job-to-housing ratios, jobs access to transit and HOV
 - Measures are currently under development

VDOT used the FAMPO regional MPO transportation model for the Fredericksburg region to examine how the projected land use patterns will impact the demand on the transportation network



Fredericksburg Region: Highway Level of Service in 2008



Fredericksburg Region: Growth from 2009 to 2035

- Region is projected to grow by ~75%
- Region will continue to have imbalance between population and jobs
- Region will have ~385,000 works in 2035*
- 170,00 residents will commute outside of the region to work

	2009	2035	Growth
Population	335,721	592,680	256,959
Households	121,103	211,744	90,641
Jobs	120,700	209,752	89,052

* Workforce consists of 65% of population according to Bureau of Labor Statistics

- If growth takes place as projected based on existing land use policies and future regional projections the following is projected to take place in 2035:
 - Overall VMT for the region will increase 70%
 - Route 17 (Stafford) – LOS will drop from C to F and VMT will increase 119%
 - Interstate 95 – LOS will drop from D/E to F and VMT will increase 54%
 - Route 3 (Spotsylvania) – LOS will drop from D to F and VMT will increase 26%
- Analysis assumes all improvements in regional constrained long range plan will be constructed – at current funding projections this will not be possible
- FAMPO is undertaking a detailed Regional Land Use Scenario Planning project in concert with the local governments

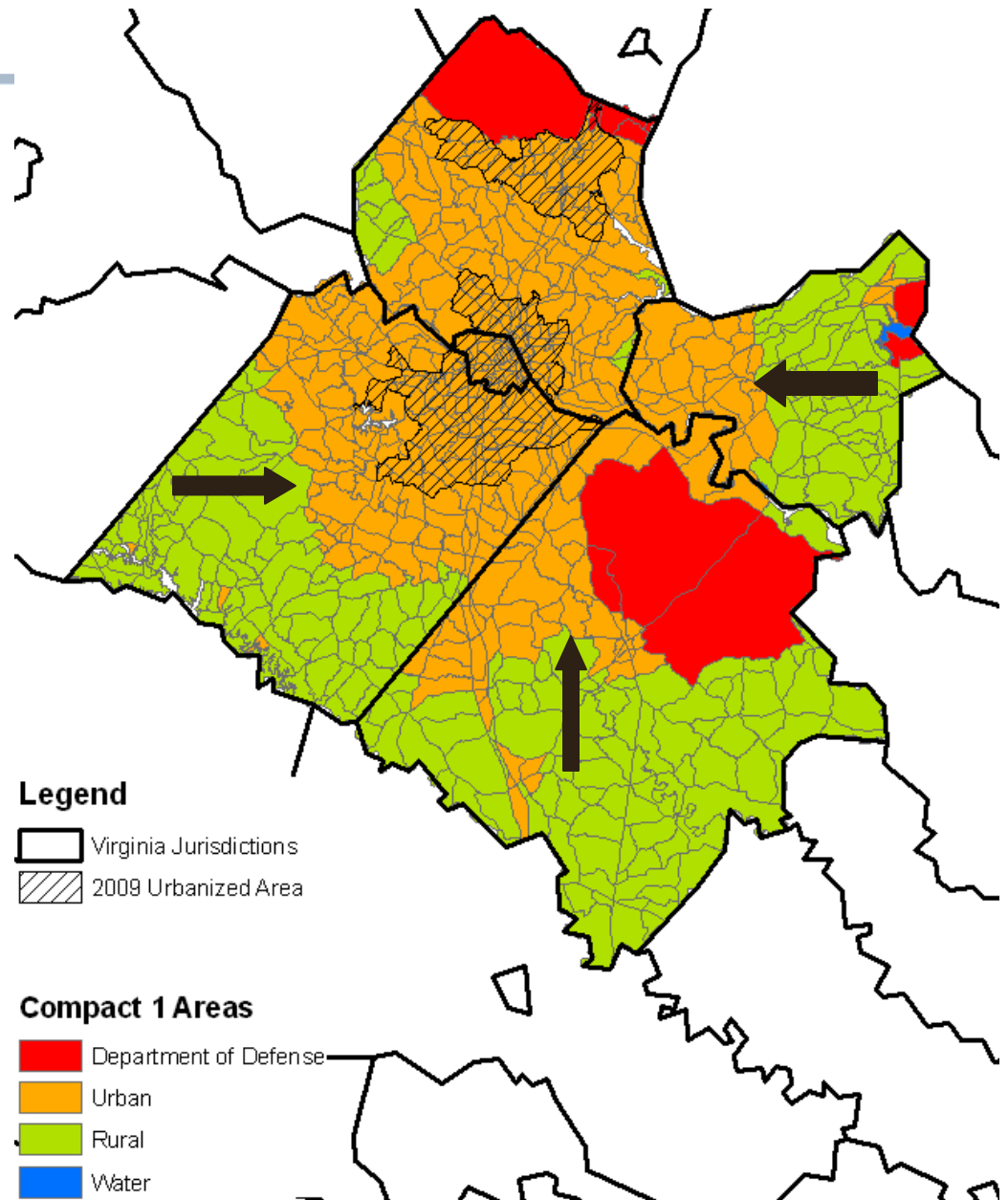
- **What if future land use patterns are more compact than projected?**
- **VDOT has run three alternative land use scenarios to examine impacts on transportation network**
 - **Alternative 1 – 90% of growth from areas outside of 3, 5 and 10 mile buffers redirected to existing urbanized areas and within buffer**
 - **Alternative 2 – 90% of growth from areas outside of 2, 3 and 8 mile buffers redirected to existing urbanized areas and within buffer**
 - **Alternative 3 – 95% of growth from areas not adjacent to existing “developed” areas redirected to areas adjacent to developed areas**
- **No growth was redirected from one locality to another**

Fredericksburg Region: Alternative 1

16.2% of future population growth redistributed from outside of selected buffer to inside buffer – 41,613 people

11.9% of future employment growth redistributed – 10,628 jobs

Density within urbanized area in 2035 would be 1/2 the overall current density of Henrico County

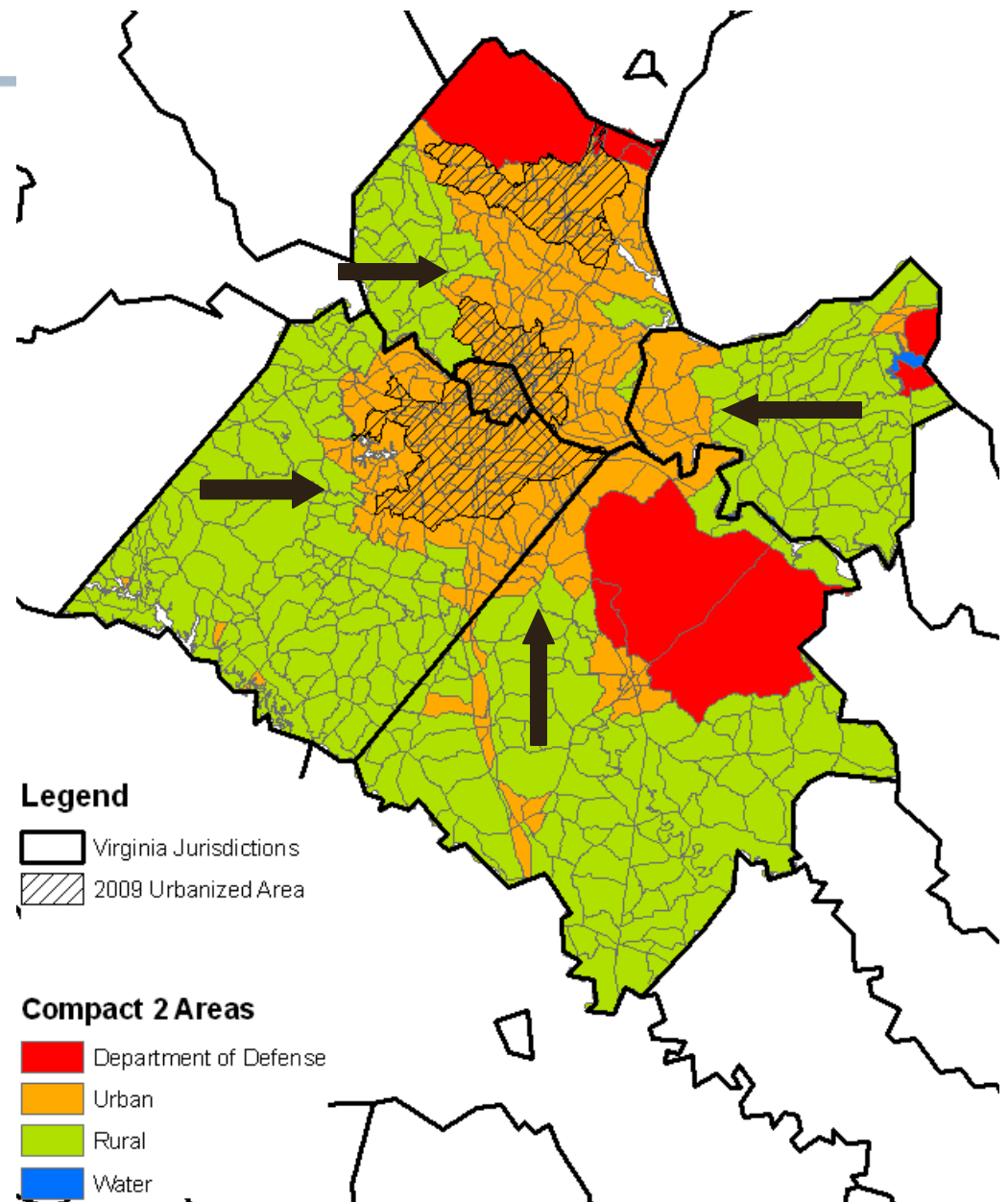


Fredericksburg Region: Alternative 2

25.8% of future population growth redistributed to areas adjacent to existing development – 66,220 people

25.5% of future employment growth redistributed – 22,680 jobs

Density within urbanized area in 2035 would be 1/3 of the overall current density of Fairfax County

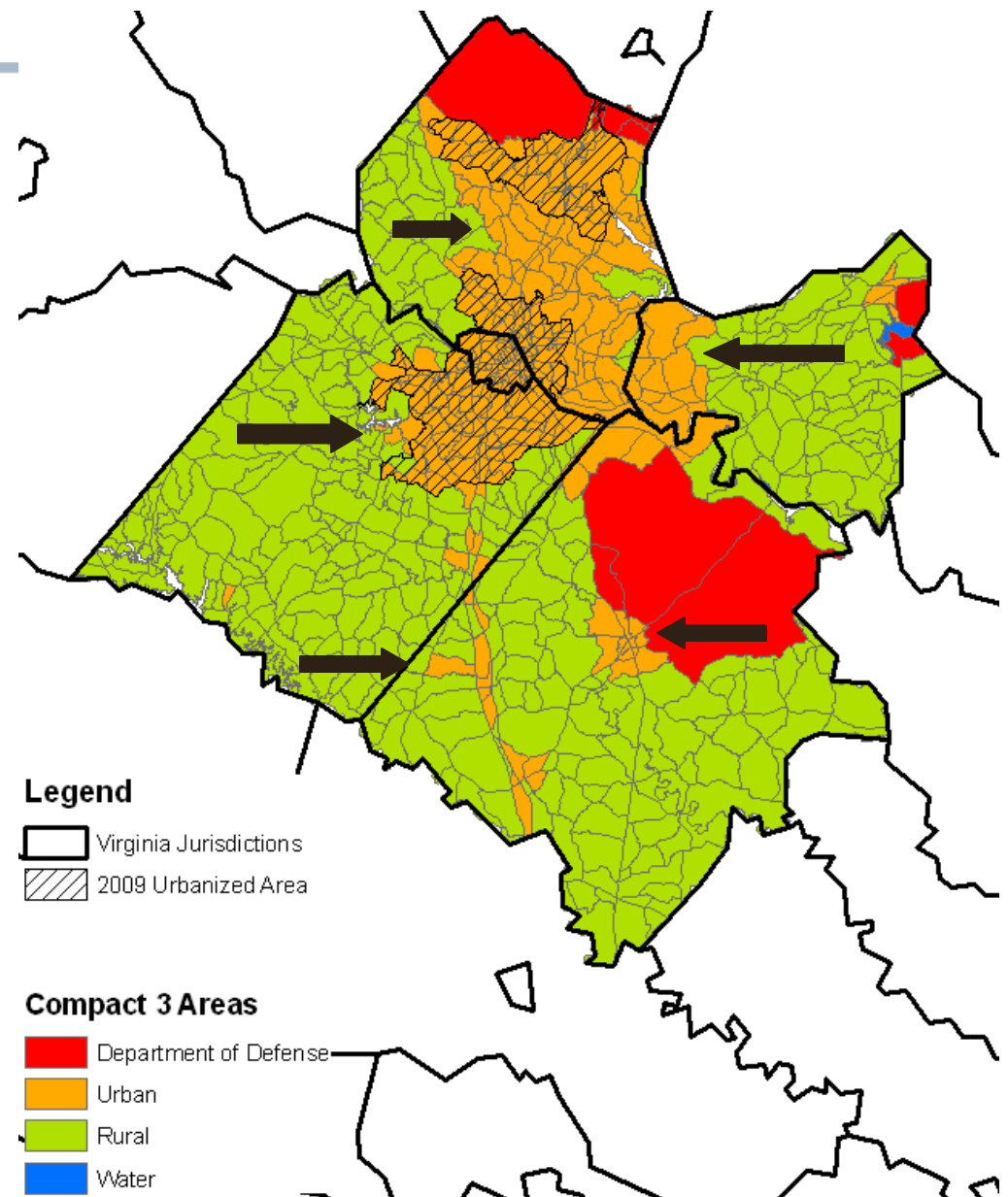


Fredericksburg Region: Alternative 3

25.5% of future population growth redistributed to areas adjacent to existing development – 65,518 people

14.5% of future employment growth redistributed – 12,901 jobs

Density within urbanized area in 2035 would be slightly higher than overall current density for Henrico County today or half of current density of Fairfax County



Comparison of Land Use Density in Alternative Scenarios

Area	Land Use Density	
Urbanized Area in Alt #1	(2035)	2.2
Urbanized Area in Alt #2	(2035)	3.2
Urbanized Area in Alt #3	(2035)	4.9
City of Fredericksburg (Today)		10.3
Arlington County (Today)		34.4
Rosslyn-Ballston Corridor (Today)		150.2
City of Richmond (Today)		13.6
The Fan, Richmond (Today)		47.2
Chesterfield County (Today)		2.2
Brandermill, Chesterfield (Today)		3.5
Henrico County (Today)		4.7
Fairfax County (Today)		9.0

LUD = (population + K*employment) / size of area in acres

K = ratio of study area population to study area employment

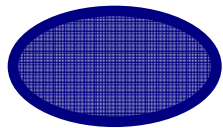
Congestion Impact from Alternative Land Use Scenarios

Daily LOS	Daily VMT*	I-95	Route 17	Route 3
Today	11.6 M	D/E	C	D
Projected Land Uses	19.8 M	F	F	F
Alternative #1	- 5.2% from Projected scenario	F	E	F
Alternative #2	- 5.5% from Projected scenario	F	C	C
Alternative #3	- 7.2% from Projected scenario	F	C	C

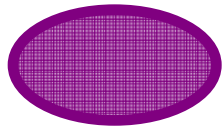
Better links between transportation and land use such as compact land use patterns can reduce future congestion

* Model does not include transit and VRE sub-model is not sensitive to land use changes

Transportation and Land Use: Challenges and Opportunities



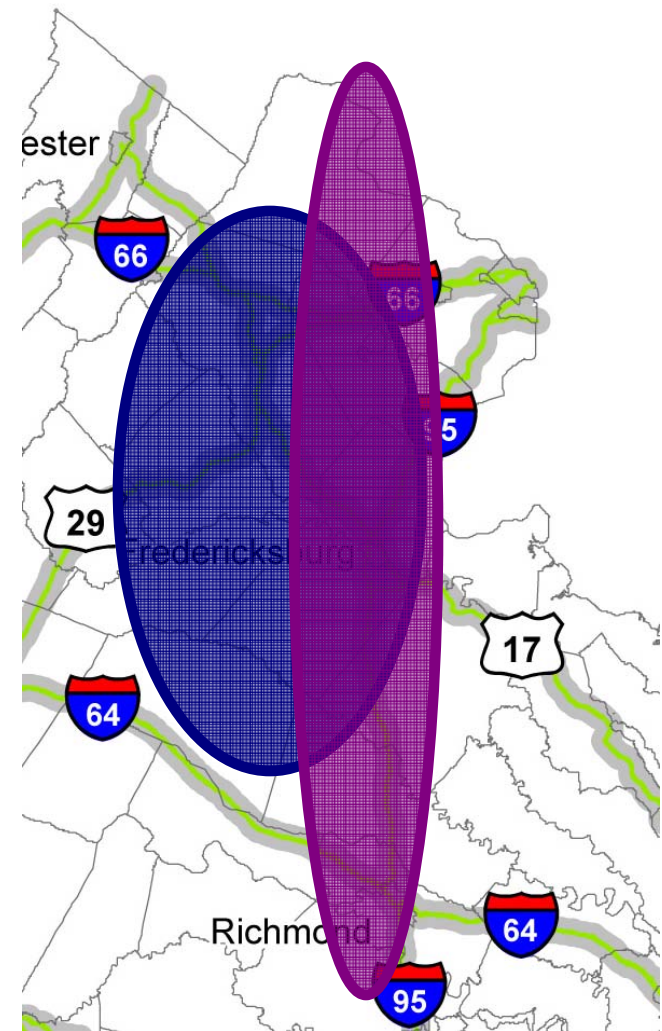
Households: 50%-80% Growth Rate



Jobs: 50%-90% Growth Rate

Poor job to housing balance increases transportation costs and reduces our economic competitiveness

State incentives can help reduce this imbalance and improve our economic competitiveness



Transportation and Land Use: Challenges and Opportunities

- Projected land use patterns will create transportation needs that the Commonwealth, regional authorities and local governments cannot solve with existing or increased revenues
- Without changes in state funding and incentives, and local policy these “alternative” land use patterns will not be realized – and even with a change – they may not be realized to this extent
- Local governments have limited authority to require concentrated growth or to address existing zoning
- What state transportation policies could help provide incentives to modify projected future land use patterns to reduce transportation needs?

Transportation and Land Use: Challenges and Opportunities

- **Develop regional performance measures and goals, and prioritize funding for improvements that help meet goals – such as reduced job-housing imbalances**
- **Create competitive grant program that will be awarded based on local land use commitments that reduce need for additional transportation improvements**
- **Create competitive grant program to expand transit that require supportive land uses**
- **Provide grants to MPOs/PDCs to coordinate regional land use planning policy**
- **Provide funding for local governments to establish transfer of development rights programs to concentrate growth and to designate urban development areas to promote compact development**
 - **\$500K planning grant can help reduce future congestion and would build very little roadway**

Conclusion: Transportation and Land Use

- **Additional transportation funding is needed to address existing and future transportation needs**
- **Land use must be a part of the solution**
 - **Benefits from land use changes are realized over time**
 - **If future land use patterns do not change, the Commonwealth will not be able to address transportation needs**
- **Virginia will need to consider programs that use transportation funds to partner with local governments to provide supportive land uses**
- **Additional improvements to the coordination between transportation and land use will help reduce future transportation needs**
 - **Better planning will lead to enhanced economic competitiveness over the long-term**



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