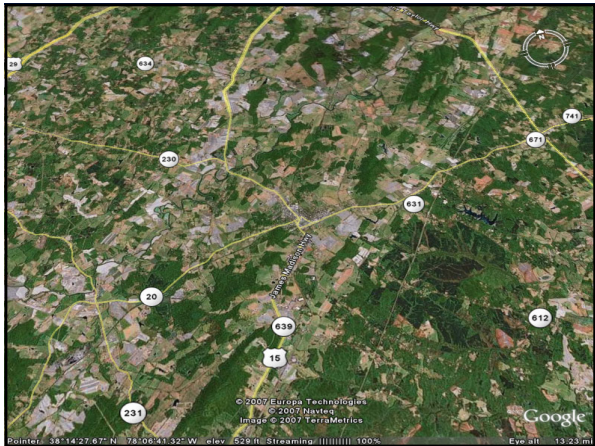


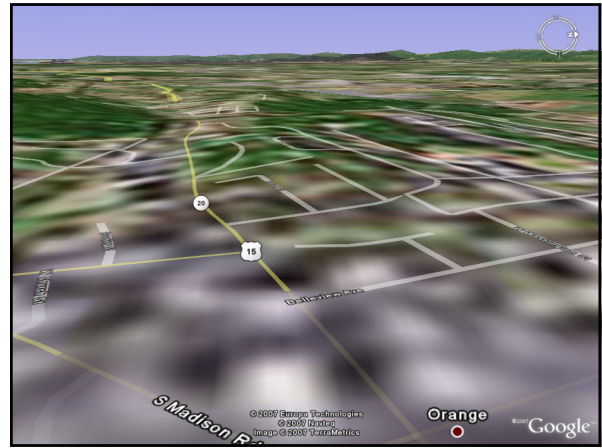
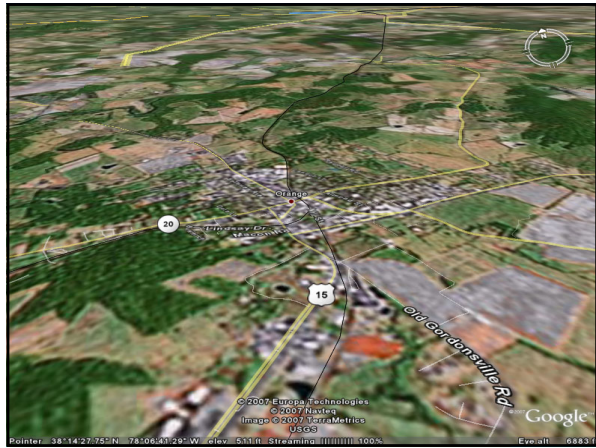
**Stand by:**

The future is coming...

Town of Orange  
Transportation Plan

Building Transportation Resilience





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### Theme 4: Transportation

**Mission**

Roads within the Town will serve the needs of our residents and businesses first, and interstate commerce second. We will build a vehicular grid system to provide multiple transport routes for intra-town trips. All in-town roads will be constructed or upgraded using the following policy guidelines:

- Pedestrian-friendly
- Low speed
- Intra-town focus
- Grid designed
- Rural scale

We will create new walking, biking, and alternative powered (scooter, motorized wheelchair) systems to interconnect the entire Town and nearby tourist and employment destinations in the County. A new Orange Train Station will provide rail commuter access to major destination centers.

Poplar Forest Drive

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**Goal T1:** Create an expanded grid vehicular transportation system consistent with Transportation Vision.

**Analysis:**

**Background**

Madison Road is projected to experience the greatest growth in average daily traffic (from approximately 10,000 vehicle trips per day (1995-2000) to approximately 20,000 (2020)).

**Figure 5: Average Daily Trips**

Town of Orange 2020 Transportation Plan

The Town of Orange 2020 Transportation Plan (<http://www.virginiaplan.com/transportation/orange.htm>) was approved by Towns Council in 2012. This Plan considers recommendations from the Plan and proposes changes to better reflect the Vision and Goals found in the Plan. The following 2 maps show transportation improvements currently planned by the Town.

These improvements and other under development will be included in a revised 2030 VDOT small area study as a cooperative project between the Town and VDOT.

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The Town asks the Commonwealth Transportation Board to consider the following two maps contained in the "Official Map" for the Town stipulated in 13.3-2233 of the Code of Virginia, until such time as the Town, VDOT, and Orange County complete the revised small area plan.

**Figure 6: Transportation Official Map A**

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**Figure 7: Transportation Official Map B**

Proposed new streets to connect new development in the Town to the west and south.

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On Figure 6, Map A, the first map, new Roads are shown in pink. Reconstruction of existing roads is shown in green. Green squares are intersection improvements. The North Street Extension, Orange Village Extension, UVA Medical Extension are new roads proposed in this Plan and are not included in the 2010 Plan.

On Figure 7, Map B, new street are shown in green. Intersection improvements are shown as green circles.

The Virginia Commonwealth Transportation Board (CTB) has updated the Virginia Transportation Six-Year Improvement Program for Fiscal Years 2005-2010 and has requested construction projects from localities in the Commonwealth. In March, 2005, the Town submitted the Boyd Street Extension project for funding. Also in 2005, the Department of Transportation Regional Commission submitted a Transportation and Mobility Planning grant on behalf of the Town for the same project. The planning grant will fund planning and preliminary engineering studies for this new road.

Another new road construction project discussed, but not submitted, was the Hooper-Miller-Hilltop Roads Connection. This project, once completed, will connect Spicer's Mill Road to its 20' (Main Street West). This road is envisioned for the following reasons:

- Most of the road has already been constructed.
- As the northern and western portions of Town develop, this road will provide a north-south alternative to Madison Road.

As the road was not included in the 2010 Plan, it was not eligible for submissions as a 2005 request.

In early 2006, VDOT began working with the Town on an overhaul of the 2010 Transportation Plan for the Town. Consistent with that Comprehensive Plan, the emphasis of the new VDOT plan will be on connecting existing streets rather than construction of entirely new roads. An area that will receive particular scrutiny is the western portion of Town, where the existing street network needs connection.

**Scale of Town Roads**

Among the types of infrastructure that influence the quality of life of the Town of Orange, none has greater impact than transportation. For the last fifty years, the Commonwealth of Virginia has generally used a "one-size fits all" transportation design concept. On the positive side, Virginia historically has had one of the finest vehicular transportation systems in the U.S. However, this "one-size fits all" concept has generally led to excessively wide streets and highways, hostile environments to pedestrians, severe storm water impacts, and loss of connectivity to small towns and villages. This Plan proposes new design alternatives consistent with the small town vision for the following three transportation strategies:

- Connectivity

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- Crash and Cost
- Street Widths
- Intersections
- Speed

**Connectivity**

Street design details are a direct result of a community's "connectivity vision". In general, there are two visions from which to choose:

- Low connectivity: Vehicle trips channelled to progressively larger roads using wide lanes and sparse connections.
- High connectivity: Vehicle trips distributed through a two-dimensional network.

The high connectivity model is best suited for small towns and forms the basis for transportation recommendations found in this Plan. Design details discussed below are based on this model.

**Crash and Cost**

Current zoning laws require curb and gutter for all new streets in Town. Because this includes long-term maintenance cost and ease of appearance of edge of roadway, Town an environmental and quality of life perspective, however, this requirement may not always be the best option. A grass-lined "black section" may be more consistent with a small town quality of life in the following context:

- Estimate condition
- Low density residential development (less than 4 du/acre)

**Street Width**

Based on the high connectivity model, street widths are more narrow than otherwise designed. Center street widths needed for one lane and two-lane roads is reduced or eliminated. Studies by the Federal Highway and Transportation Administration, see below, have shown that street widths, when combined with roundabouts, can be reduced.


**Intersections**

An optimized grid system will create more intersections. The Town will need to choose appropriate intersection improvements to match its small town vision. Because Orange is an old town, traditional features such as stop signs will likely be needed. The use of stop signs, however, as a default intersection solution to traffic congestion, is inconsistent with the Town's vision, and should only be used in existing areas where there are inadequate methods for "roundabouts".

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**Appleton, Wisconsin Roundabout**



**Figure 8: Average annual crash frequencies at 11 U.S. intersections converted to roundabouts**

Year of Application	Year	Before Conversion	After Conversion	Reduction	% Reduction
1995-1999	1995	21	14	7	33%
2000-2004	2000	19	10	9	47%
2005-2009	2005	18	10	8	44%
2010-2014	2010	17	10	7	41%
2015-2019	2015	16	10	6	38%
2020-2024	2020	15	10	5	33%
2025-2029	2025	14	10	4	29%
2030-2034	2030	13	10	3	23%
2035-2039	2035	12	10	2	17%
2040-2044	2040	11	10	1	9%
2045-2049	2045	10	10	0	0%
2050-2054	2050	9	10	-1	-11%
2055-2059	2055	8	10	-2	-25%
2060-2064	2060	7	10	-3	-43%
2065-2069	2065	6	10	-4	-67%
2070-2074	2070	5	10	-5	-100%
2075-2079	2075	4	10	-6	-150%
2080-2084	2080	3	10	-7	-233%
2085-2089	2085	2	10	-8	-400%
2090-2094	2090	1	10	-9	-900%
2095-2099	2095	0	10	-10	>-1000%

The consideration of the use of roundabouts in Town, and particularly on major roads leading into Town will be controversial. Nevertheless, based on this data, and their growing use in other localities throughout the country, they should be encouraged in Orange.

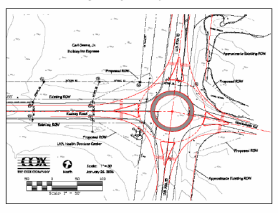
**Speed**

More future intersections will likely mean lower speeds on the Town's streets. Lower speeds will improve pedestrian and vehicular safety.

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**Figure 8: Proposed Railway Road Roundabout**



**Indicator T1.8.1:** Roundabouts constructed  
**Benchmark T1.8.1:** Roundabouts constructed

**Progress T1.8.1:** [Progress indicator]

**Responsible Party T1.8.1:** Town Planner  
VDOT  
Area landowners  
2009-2011

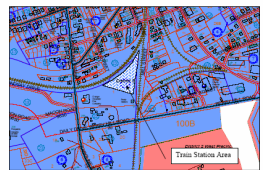
**Action T1.9: Extended Mayhew Drive to meet Rt. 20 Extension (area added to 2008 CDP)**

**Indicator T1.9.1:** Preliminary Design  
**Benchmark T1.9.1:** Completion of Preliminary Design

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**Figure 11: Proposed New Train Station Location**



**Action T7.1: Complete Preliminary Engineering Report (PER) on new train station location.**

**Indicator T7.1.1.1:** Passenger and feasibility study study completion

**Progress T7.1.1:** [Progress indicator]

**Responsible Party T7.1.1:** Town of Orange  
Commonwealth of Virginia  
Virginia Department of Rail and Public Transportation  
2008-2010

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**Progress TC1.2.1:** [Progress indicator]

**Responsible Party TC1.2.1:** Town Council  
Board of Supervisors  
Town and County Planners  
Town and County Attorneys  
Town and County Administrators  
2008

**Implementation TC1.2.1:** [Implementation indicator]

**Goal TC2: Coordinate infrastructure plans and projects between the Town and County.**

**Action TC2.1: Coordinate yearly Transportation Summit with Town and County Planning Commissions.**

**Indicator TC2.1.1:** Town-County Planning Commission Summit  
**Benchmark TC2.1.1:** 1 joint meeting

**Progress TC2.1.1:** [Progress indicator]

**Responsible Party TC2.1.1:** Town Planning Commission  
County Planning Commission  
Town Planner  
County Planner  
2008

**Implementation TC2.1.1:** [Implementation indicator]

**Action TC2.2: Create Joint Planning Area.**

**Analysis:**

Parcel in the County, to the north and south of Spicer's Mill Road and to the west of Town as presently zoned Residential Limited (RL) and Agriculture (A). A regular and specific process for the Town and County to work together to create a Joint Planning Area for this area and to consider development proposals is needed. Figure 19 shows a concept area bounded by the red line.

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Indicator TC2.2.1:	Joint Planning Area (JPA)		
Benchmark TC2.2.1:	JPA adopted by Town and County Planning Commission, Town Council, and Board of Supervisors		
Progress TC2.2.1:			
Responsible Party TC2.2.1:	Town Planner County Planner Town Planning Commission County Planning Commission Town Council Board of Supervisors		
Implementation TC2.2.1:	2006		
Action TC2.3: Create Master Plan for Joint Planning Area.			
Analysis:			
See Theme 2: Infrastructure			
Indicator TC2.3.1:	Phase I Northwest Area Master Plan		
Benchmark TC2.3.1:	Completion of Plan		
Progress TC2.3.1:			
Responsible Party TC2.3.1:	Town Planner County Planner Town Planning Commission County Planning Commission Town Council Board of Supervisors		
Implementation TC2.3.1:	2007-2008		
Indicator TC2.3.2:	Phase II Southwest Area Master Plan		
Benchmark TC2.3.2:	Completion of Plan		

