PLACEMAKING:
Transportation, Land Use, Economic Vitality
Why is Transportation & Street Design important?
It has a direct impact on Land Use and the Economy.
Single-occupant-vehicle (SOV) rate is too high (should be 50%)
The 3 Major Types of Street Categories:
How did transportation & street design evolve?
A Brief History of Roads and Streets (in 2 minutes)
1700s – 2000s
Typical country road in Fairfax - 1700s-1800s
1860s: Country roads – Routes 1, 7, 29, 50, 123
Primary Functions: Long distance travel (farm to market, town to town)
1880s: Fairfax country roads proliferate
Organic Growth: No formal plan or grid of streets
1749: Alexandria Plan
A planned grid of streets by George Washington
1800s: Alexandria
A dense, walkable grid spurs economic activity & growth along a river port
1800: City of Washington
A planned grid of streets
1900: Washington, D.C.
Urban Development: mixed-use, dense, multi-modal grid (peds, horses, bicycles, streetcars, cars)
1960s: Tysons Corner

Suburban Development: Euclidean zoning and auto-dominant infrastructure
Main Arterial through Tysons
Focus on Automobile Throughput – Not on People
1960: Early Fairfax Plan
Major arterials and automobile scale

1961: Tysons Master Plan
Euclidean (single-use) Zoning
1964: Beltway
Fairfax’s first highway – 4-lanes

1970s: Beltway
Doubled to 8-lanes within 10 years
Traffic: A “new” 20th century problem due to auto-focused roads
Automobiles take up a lot of space and the infrastructure is expensive. Pedestrians and bicycles require much less space and infrastructure.
Late 1800s: New York City
Street as marketplace, gathering space, playground, and travel
Early 1906: San Francisco
All travelers “owned” the street due to slow speeds
As automobiles got faster, they were given highest priority and pedestrians and children were relegated to the sidewalks.
1910: Richmond, Virginia (Broad & 4th)
Street as marketplace, gathering space, and multi-modal travel
2010: Richmond, Virginia (Broad & 4th)

Automobiles dominate: Parking lots replaced buildings and streetcars were removed. Peds are gone.
1920s – The start of Euclidean (single-use) Zoning
This is where the pedestrians went: Auto-dominated subdivisions, shopping centers, office parks
1950: Washington D.C. population peaks
1980s: Suburban growth peaks
1930/40s: Washington, D.C. – Bustling Shopping & Office District
The end of an era, as business activities moved to suburbia and streetcars were removed
1956: Seven Corners Shopping Center
Fairfax’s first major shopping center – auto-dependent
1960s: Rt. 50 and 7 are Widened

Former country roads become auto-dominated arterials. Not ped friendly.
Streets for cars only v. Streets for everyone
Level of Service (LOS) “traffic” modeling:
The basis of Fairfax street and road design

VDOT owns Fairfax roads and streets and uses LOS to ensure automobiles are delayed too long at traffic lights. Other travelers are not considered in LOS modeling.
<table>
<thead>
<tr>
<th>LOS</th>
<th>Average delay in seconds per vehicle</th>
<th>Description of motorist perception</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>&lt; 10</td>
<td>Free-flow traffic: “Good” LOS</td>
</tr>
<tr>
<td>B</td>
<td>10.1 – 20</td>
<td>Reasonable free-flow</td>
</tr>
<tr>
<td>C</td>
<td>20.1 – 35</td>
<td>Stable but unreasonable delay begins to occur</td>
</tr>
<tr>
<td>D</td>
<td>35.1 – 55</td>
<td>Borderline “bad” LOS</td>
</tr>
<tr>
<td>E</td>
<td>55.1 – 80</td>
<td>“Bad” LOS: long queues</td>
</tr>
<tr>
<td>F</td>
<td>&gt; 80</td>
<td>Unacceptable: very high delay, congestion</td>
</tr>
</tbody>
</table>

LOS: Measures Vehicle Delays at Traffic Lights
Typical LOS Modeling
Automobile counts at traffic lights, but no considerations for peds/cyclists
[Table showing various metrics and values for different scenarios, with notes indicating that the approach only considers the driver’s experience, not the pedestrian or cyclist’s experience.]

Only considers the driver’s experience, not the pedestrian or cyclist’s experience.
Voila!

LOS determines that the road must be **widened for vehicles** (not peds/cyclists)
From 2-Lane Country Road to 10-Lane Auto Strip

Historic Chain Bridge Rd/Rt 123: 30,000 ADT
Connecticut Ave: Urban Street of Six-Lanes
Major Arterial: **29,250** ADT (similar to Rt. 7)

10’ Lanes, Slow Speed, Street Trees, Ground Floor Retail, On-Street Parking, Peds/Cyclists
Rt. 7 in Tysons – Major Arterial of 7-lanes
Major Arterial: 42,000 ADT
Rt. 7 in Fall Church – Major Arterial of 4 lanes

21,000 ADT

10.5’-11’ Lanes, Slow Speed, Street Trees, Ground Floor Retail, Peds/Cyclists
The Tysons Plan envisions Complete Streets, more like the one shown in Falls Church.
What’s important depends upon values and perspective

LOS Model:

F

A

Economic/Complete Streets Model:

A

F
The **LOS** Methodology is INDUCING More Traffic

Therefore, it will never “solve” for congestion or result in Complete Streets
Freeway capacity grew faster than population, yet delay exploded

42%

32%

144%

U.S. Averages

<table>
<thead>
<tr>
<th>Urbanized area</th>
<th>Population growth</th>
<th>Freeway lane-miles growth</th>
<th>Growth in delay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Washington, DC</td>
<td>47%</td>
<td>43%</td>
<td>131%</td>
</tr>
</tbody>
</table>

Source: Smart Growth America “The Congestion Con” 2020
Miles driven per person grew by 20 percent in the largest 100 urbanized areas

1993 - 21 miles per day

2017 - 25 miles per day

Source: Smart Growth America
“The Congestion Con” 2020
Connect people to jobs and services

Don’t focus on speed. Instead, determine how well the transportation system connects people to jobs and services, and prioritize the projects that will improve those connections.

Source: Smart Growth America

Source: U.S. Census Bureau
1946 - 2020: Springfield
Auto-Dominated Roads and No Mixed-Use Developments
2020: A new vision for Springfield
Mixed-Use Development and walkable streets
2018: A new vision for Rt. 1
Mixed-Use Development, a new Bus Rapid Transit (BRT) system and walkable streets
The Rt. 1 “Embark Plan” with Community Business Centers (villages) at BRT stops
Penn Daw CBC Vision: A new “Livability Spine parallel to the Rt. 1 Corridor
Rt. 1 – Future Street Section with BRT
10 Lanes plus new sidewalks and cycle tracks
Rt. 1 – Future Street Section with BRT

13 Lanes is too wide and we are working to reduce these road sections down to 10 lanes
1980s: A Vision for Reston Town Center that was realized in the 1990s
Mixed-use, pedestrian-oriented
2000s: Reston TSAs
More mixed-use, walkable places

Halley Rise @ RTC Metro

Reston Station @ Wiehle Metro Station
Reston TSA Real Estate Growth Since 2017

2017: $8.7 billion in RE assessments
2019: $11 billion in RE assessments

+26.4%
Mosaic Real Estate Growth Since 2007

2007: $38.3 million in RE assessments
2020: $673 million in RE assessments

+1670.2%
2010: The Tysons Plan is Adopted
2010s: The Boro in Tysons – Placemaking through Mixed-use development, quality public spaces and walkable streets
Tysons Real Estate Growth in Last 6 Years

2014: $12.4 billion in RE assessments
2020: $18 billion in RE assessments

$12.4B

$18B

+45.2%
Tax Revenue Generation per District and Sources of Tax Revenue

Places with mixed-use and walkable development pays off
Traditional Grid/Complete Streets
Promotes walking

Traditional Suburban Arterial & Cul-de-Sacs
Promotes driving
You suffer from a severe lack of urbanism.
The road that LOS built
Can you find the pedestrian?
Nearly 40,000 people die each year in auto related accidents
The gateway to Fairfax County – Rt. 1
A suburban arterial with 11 lanes and high speeds
This is where Ms. Alston was killed in 2020
This is where Ms. Asante was Killed
This is where Mr. Yeboah was killed in 2020
Notice the number of lanes & the lousy bike lane
Our residents deserve better: they deserve more humane streets.
Many of our crosswalks are too far apart, which results in jay-walking.

“Just use the nearest sidewalk and crosswalk, they said.”
Who are the victims of these tragic crashes? Although people of all ages, races, ethnicities, and income levels suffer the consequences of dangerous street design, some neighborhoods and groups of people bear a larger share of the burden than others.

**Older adults, people of color, and people walking in low-income communities are disproportionately represented in fatal crashes involving people walking.**

Even after controlling for differences in population size and walking rates, we see that drivers strike and kill people over age 50, Black or African American people, American Indian or Alaska Native people, and people walking in communities with lower median household incomes at much higher rates.

**Relative Pedestrian Danger by Age (2008-2017)**

People age 50 and up, and especially people age 75 and older, are overrepresented in deaths involving people walking. This age group is more likely to have medical conditions that make walking more difficult and less likely to have good access to public transit, making them more dependent on walking for transportation.

Source: Smart Growth America
Speed results in serious injuries and deaths

- Hit by a vehicle traveling at 20 MPH: 9 out of 10 pedestrians survive.
- Hit by a vehicle traveling at 30 MPH: 5 out of 10 pedestrians survive.
- Hit by a vehicle traveling at 40 MPH: only 1 out of 10 pedestrians survives.
The gateway to Alexandria – Rt. 1
An urban arterial, but only 6 lanes, and slow speeds
The gateway to Fairfax County – Rt. 1
A suburban arterial with 11 lanes and high speeds
A gateway to Washington, D.C.:
A beautiful and humane “civic space”
Wiehle Avenue Redesign:
An opportunity to create a “Complete Street”
(a humane street focused on people)
We can create Complete Streets that are:

- Great places
- Induce more ped/cyclist/transit travel
- Spur economic activity

How?
DEVELOP A “COMPLETE STREETS” POLICY

1. Replace LOS with other measures, i.e., Vehicle Miles Traveled (VMT) Reduction

2. Humanize our streets for ALL users:
   a. Slow speeds to 25-35 mph (to reduce fatalities/injuries)
   b. Limit arterials to 6 thru-lanes (to calm traffic)
   d. Add on-street parking (to help small businesses & calm traffic)
   e. Add crosswalks every 300’- 500’ (to reduce jay-walking & calm traffic)
   e. Add well-designed sidewalks/bike lanes (to induce ped/bike travel)
   f. Plant shade trees (for comfort and beauty & to calm traffic)
   g. Place buildings close to street (to create “place” & calm traffic)
Complete Streets

Complete Streets are streets designed and operated to enable safe use and support mobility for all users. These include people of all ages and abilities, regardless of whether they are traveling as drivers, pedestrians, bicyclists, or public transportation riders. The concept of Complete Streets encompasses many approaches to planning, designing, and operating roadways and rights of way with all users in mind to make the transportation network safer and more efficient. Complete Street policies are set at the state, regional, and local levels and are frequently supported by roadway design guidelines.

Complete Streets approaches vary based on community context. They may address a wide range of elements, such as sidewalks, bicycle lanes, bus lanes, public transportation stops, crossing opportunities, median islands, accessible pedestrian signals, curb extensions, modified vehicle travel lanes, streetscape, and landscape treatments. Complete Streets reduce motor vehicle-related crashes and pedestrian risk, as well as bicyclist risk when well-designed bicyclist-specific infrastructure is included (Reynolds, 2006). They can promote walking and bicycling by providing safer places to achieve physical activity through transportation. One study found that 43% of people reporting a place to walk were significantly more likely to meet current recommendations for regular physical activity than those reporting no place to walk (Powell, Martin, Chowdhury, 2003).

Related Transportation and Health Tool Indicators

ALEXANDRIA
COMPLETE STREETS DESIGN GUIDELINES

National Complete Streets Coalition

STREETS are a vital part of livable, attractive communities. All people should have safe, comfortable, and convenient access to communities.
Proposed Safe Streets for All Program

Lauren Delmare
Fairfax County Department of Transportation
November 18, 2021
ACTIVE FAIRFAX

Vision, Goals, and Objectives

Nicole Wynands
Fairfax County Department of Transportation

Public Information Meeting
September 13, 2021
Interim measures: Flowers, Trees, Lawn Chairs!
How about closing a slip lane for PEOPLE?
Engage the Community to Create Community
Safe Streets, Placemaking and Economic Vitality through Quality Planning
2020: The Boro in Tysons – Placemaking through Quality Public Spaces and Walkable Streets