Driving to 2030

Demographic change, urban form, and future VMT growth in the US

Rolf Pendall, Ph.D.
@rolfpendall
Co-director, Metropolitan Housing & Communities
Urban Institute

The nonprofit Urban Institute is dedicated to elevating the debate on social and economic policy. For nearly five decades, Urban scholars have conducted research and offered evidence-based solutions that improve lives and strengthen communities across a rapidly urbanizing world. Their objective research helps expand opportunities for all, reduce hardship among the most vulnerable, and strengthen the effectiveness of the public sector.
Key takeaways

Growth and aging

- Growth in population will increase VMT
- Aging of the population will moderate the increase

Demographic change at the sub-national level

- Different rates of growth in different parts of the US
- Older adults growing everywhere, younger adults widely varied

Land use and VMT growth

- Fast growth projected in low-density, high-VMT commuting zones
- Market pressures and policy could align to reduce VMT in low-density commuting zones
We’re growing, but we’re getting older.

Which trend wins?
US population growing 38M from 2015-2030; 70% of the growth will be in the 65+ population

Source: U.S. Census 2014 National Population Projections
VMT per capita peaks in middle age, but senior driving is growing

Senior driving growing significantly

- 84 percent of Americans 65 and older held a driver’s license in 2010 compared to barely half in the early 1970s.
- Drivers over 65 increased trips by 20 percent and increased miles travelled 33 from 1990 to 2009.
- Health, assets, and mortgage debt provide incentive and ability to extend working years

If average VMT/capita by age remains at 2009 level, total personal VMT grows ~10% from 2015-2030

Some areas will grow faster than others

Widespread growth in older adults but varied growth of the younger adults
Variation in growth rates, with Midwest & rural loss, gains in coastal areas, Sunbelt and the Rockies

Population % change, 2015-30

-27.3% - -5.7%
-5.5% - 4.2%
4.3% - 13.6%
13.8% - 26.1%
26.8% - 53%

Source: Mapping America's Futures, 8/2015 vintage, all average scenario
A few big metropolitan areas expect 1-2.5M new residents between 2015 and 2030

Population absolute change, 2015-30

-141,807 - -36,582  
-30,312 - 0  
16 - 220,649  
233,751 - 488,109  
528,891 - 919,209  
1,174,037 - 2,672,681

Source: Mapping America's Futures, 8/2015 vintage, all average scenario
Senior population will rise everywhere 2015-30, often by over 50%, sometimes more than doubling.

Source: Mapping America's Futures, 8/2015 vintage, all average scenario.
But under-65 population will decline or grow very little in large swaths of the US.
Resulting in great diversity in the percent seniors by the year 2030

Source: Mapping America's Futures, 8/2015 vintage, all average scenario
What about land use trends?
How urban form matters for VMT

Density

- Metropolitan areas with higher population and employment per developed hectare have lower VMT/capita
- Density may also contribute to other VMT-reducing aspects of urban form (diversity, design)

Diversity

- Mixed use generates fewer trips, reduces VMT

Design

- Small blocks reduce VMT
Most fast-growth areas are low density.

*Average population density per acre of populated blocks with non-zero land area only, 2010*

Source: U.S. Census 2010, block level data from nhgis.org.
Most fast-growth areas have high VMT/capita.

*Vehicle miles traveled per capita per day, 2009*

Source: NHTS 2009 translation file, aggregated from tract to CZ level by R Pendall August 2015
In low-density commuting zones, people drive more.

Source: NHTS 2009 translation file, aggregated from tract to CZ level by R Pendall August 2015; 2010 Census of Population, block statistics, excludes blocks with zero population and zero land area. CZs with over 500,000 persons only.
Multifamily development in mixed-use sub-centers

Smaller lots in single-family areas

Beaufort, SC: 1/acre
Dallas, TX: 2.3/acre
Davis, CA: 4.3/acre
Fresno, CA: 8.1/acre

Source: http://www.lincolninst.edu/subcenters/visualizing-density/
Simulation: Impacts of lower VMT in 25 high-VMT, high-growth metro areas

Incremental VMT from population growth

Thanks.
rpendall@urban.org