WASHINGTON COUNTY AT A CROSSROADS:

AN ANALYSIS OF THE PROPOSED NORTHERN CORRIDOR HIGHWAY PROJECT IN SOUTHWEST UTAH

SPECK DEMPSEY

OCTOBER 25, 2024

KEY TAKEAWAYS

- Roadway expansions typically fail to reduce congestion – and sometimes make it worse – because of induced demand. The County's transportation consultant acknowledges that the Northern Corridor Project would increase driving in the region. Of the alternatives studied, UDOT's preferred option increases driving the most.
- No traffic model, no matter how advanced, can provide certainty or precision about the performance of roadway segments decades into the future. Small changes in model assumptions -- like rates of telecommuting -- would have produced vastly different results.
- Even if one accepts the County's traffic modeling, the consultant concludes that another alternative, not UDOT's preferred alignment through conservation land, would produce better traffic outcomes at key intersections in the region.
- Washington County can and will reach its full economic potential only when it reforms its transportation and land-use strategies to encourage thoughtful and efficient growth (as it has begun to do with water conservation). If it does not, it dooms future generations to loss of valuable natural resources, longer commutes, and even more traffic.

ABOUT THE NORTHERN CORRIDOR PROPOSAL

- Estimated to cost $200+ million of taxpayer dollars (plus ongoing maintenance)
- Would bisect treasured conservation land and open space that Washington County residents value and that help drive the region's economic development
- Would exacerbate sprawling, auto-dependent, inefficient development patterns that are contributing to growing congestion in the region

UTAH DOT PREFERRED ALIGNMENT AND ALTERNATIVES

Orange: T-Bone Mesa Alignment

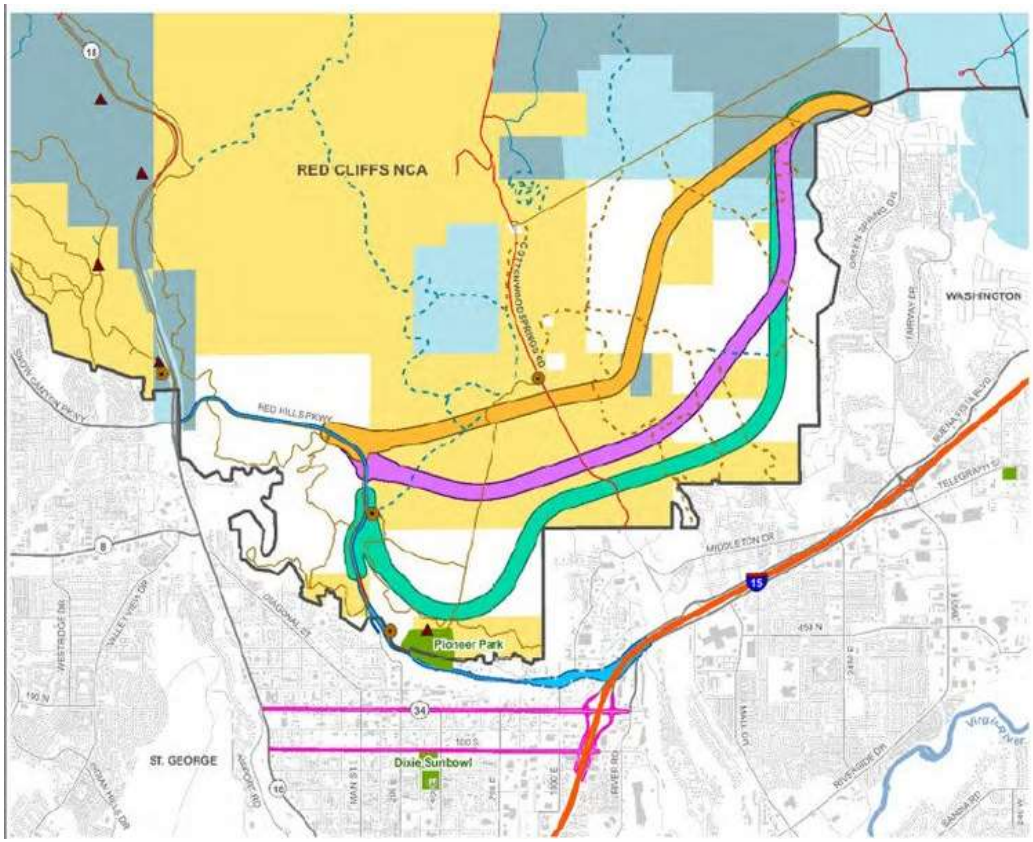
Pink: UDOT Preferred Alignment

Green: Southern Alignment

Light Blue: Red Hills Parkway Expressway

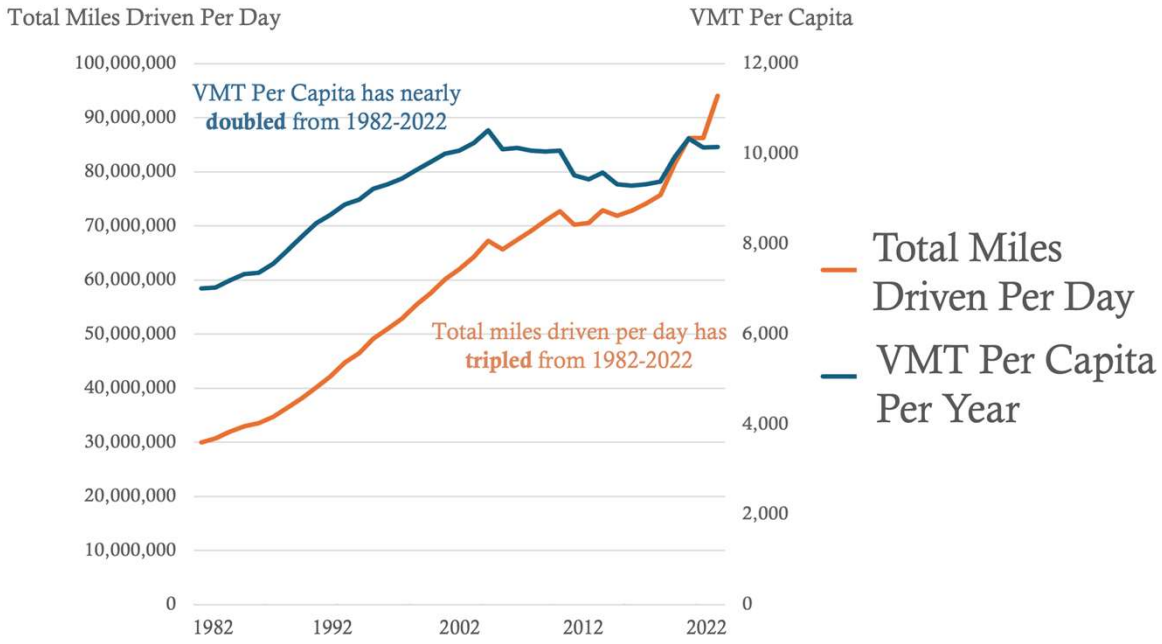
Light Pink: Downtown Couplet

Not Pictured: No build

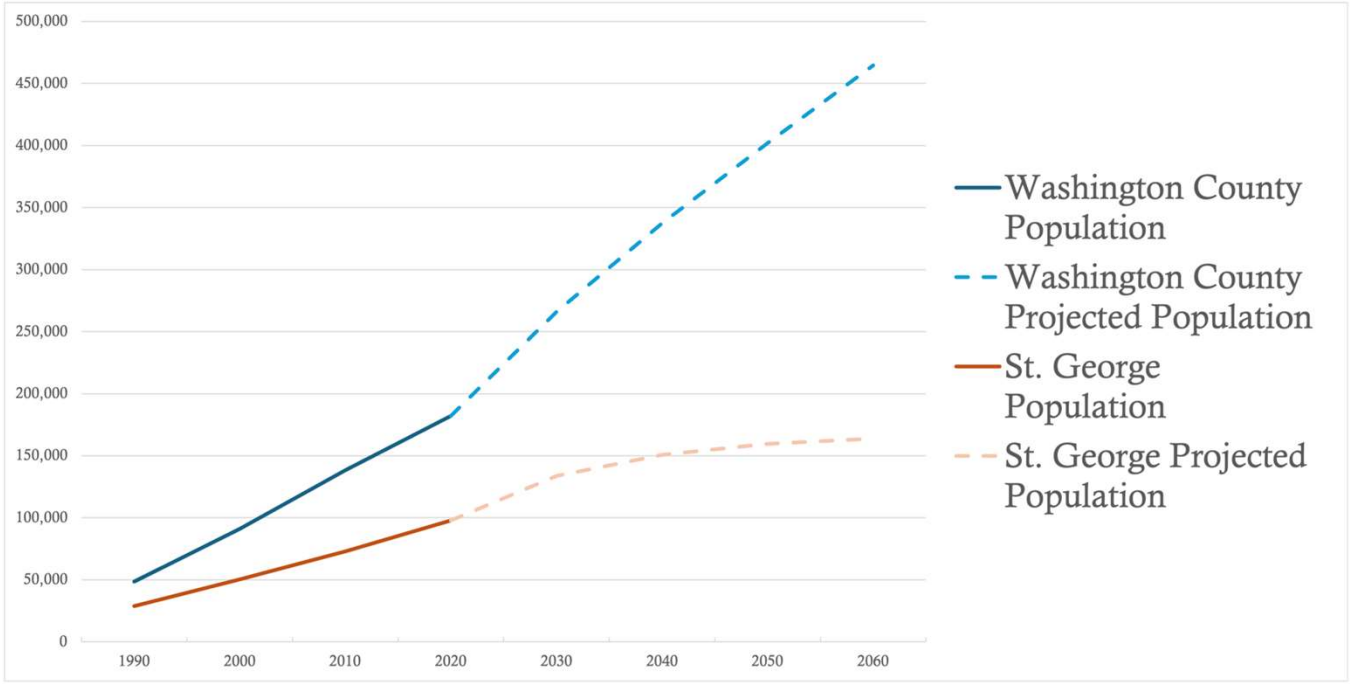


Source: Horrocks

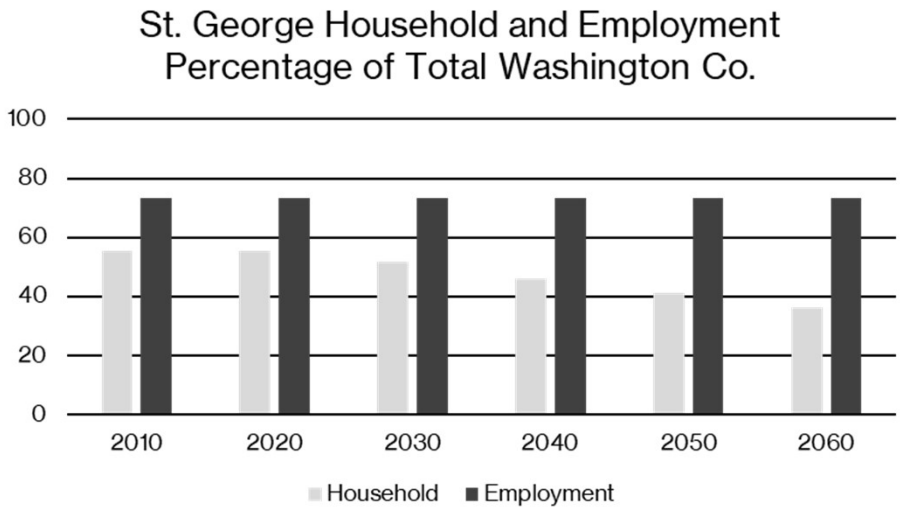
OVER THE LAST 40 YEARS, UTAH'S POPULATION HAS DOUBLED BUT DRIVING HAS TRIPLED

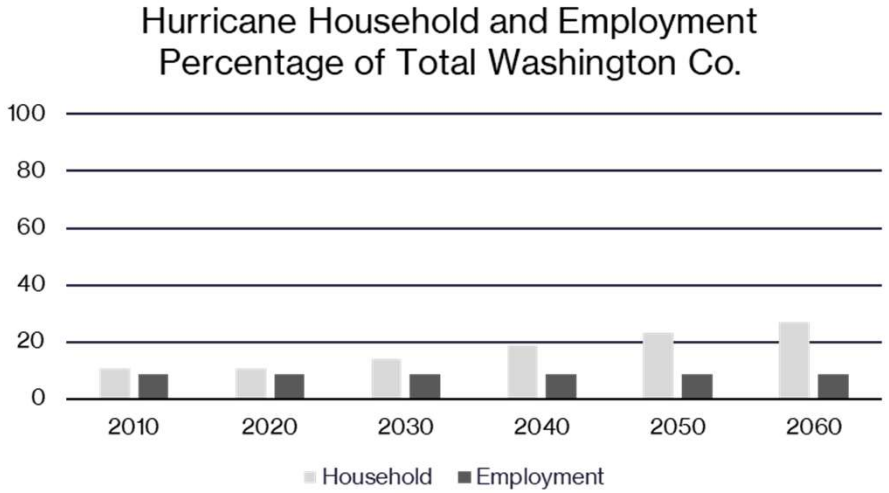


WASHINGTON COUNTY AS A WHOLE IS GROWING FASTER THAN ST. GEORGE



JOBS ARE STAYING IN ST. GEORGE BUT HOUSING IS MOVING FURTHER AWAY





POOR LAND USE PRACTICES CREATE AUTO-DEPENDENCY, WHICH CONTRIBUTE TO CONGESTION

Graphic Courtesy Transportation for America

MUCH OF WASHINGTON COUNTY'S LAND USE AND ROAD NETWORK CONCENTRATES TRIPS

Snow Canyon Parkway and State Road 18 in St. George

With only two exits to this subdivision and no retail opportunities, very few useful trips can be made without a car. And 100% of regional trips require drivers to enter Snow Canyon Parkway.

OUTLYING COMMUNITIES MAY BE PARTICULARLY SUSCEPTIBLE TO SPRAWL DEVELOPMENT

Ivins

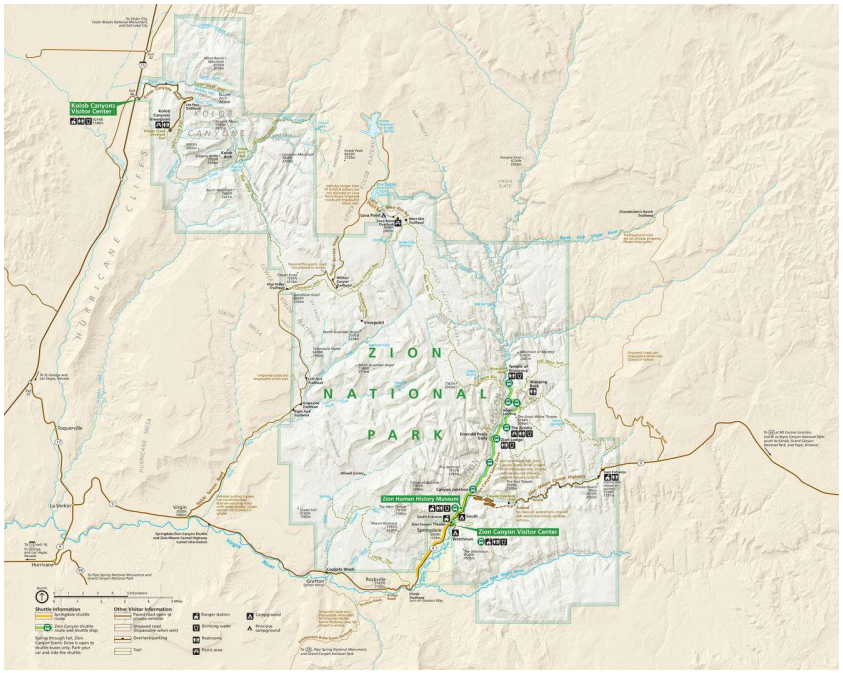
Hurricane

Suburban-style residential development without mixed-use planning means that each trip outside the home for jobs, groceries, and school is done in a vehicle that is funneled onto the major arterial roads.

BY COMPARISON, ST. GEORGE'S GRID PATTERN CREATES POROSITY AND OPTIONALITY

Because these parts of St. George are mixed-use, not every trip needs to be made in a car. And when people do need to drive, they often have multiple options for how to get to their destination.

SUBURBAN STYLE GROWTH DOESN'T JUST CAUSE TRAFFIC, IT IS LAND INEFFICIENT



Washington County is expected to grow by about 250,000 people between 2024 and 2060. If that growth were planned and encouraged to match the existing density of St. George, it will require 113 square miles of land. But if, instead, that growth matches the average existing densities of more sprawling communities in the county, it will require 323 or more square miles of land. The difference between these two numbers is about the size of Zion National Park.

HOW HORROCKS'S TRAFFIC MODEL WORKS

Dixie Travel Demand Model

- Primarily to understand current and future regional traffic demand
- Uses socioeconomic data and future predictions published by the Kem C. Gardner Institute at the University of Utah
- Designates Traffic Analysis Zones and collects these zones into larger regions to determine traffic demand with trip generation predictions across regions

VISSIM (2023)

- A microscopic traffic simulation software program developed by the PTV Group
- Analyzes freeway segments, intersections, junctions, and the roadway network to understand the peak time level of service, delays, queue length, density, speed, and vehicle miles traveled of current and alternative road configurations

Changes in travel demand predicted over time by the Dixie Travel Demand Model are used as an input to the VISSIM model to identify how specific intersections in the region may operate in 2050 after that demand has changed.

"LEVEL OF SERVICE" IN TRAFFIC ENGINEERING

What is Level of Service?

- A ranking system traffic planners use to determine how an intersection or street network is operating
    - Score of A means a free flow of traffic with no delays
    - Score of F means stop-go-traffic
- These scores are based on the highest congestion level on that roadway, even if it only occurs a few minutes a day.

What is NOT measured in Level of Service?

- Transit users and people walking, biking, or rolling.
- Duration of congestion.
- Economic benefits of busy, if congested, commercial/retail areas.
- The economic costs of building wide, sprawling roads for peak times.
- Tradeoffs of higher LOS, including safety risks, air pollution, heat islands, loss of habitat and trees, and housing displacement.

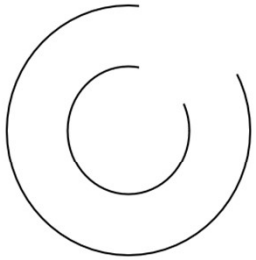
HORROCKS'S ANALYSIS INDICATES THAT THE UDOT ALIGNMENT DOES NOT PROVIDE THE HIGHEST LOS

Intersection	Terminate UDOT ROW	NCA: T-Bone Mesa (Alt 2)	NCA: UDOT (Alt 3)	NCA: Southern (Alt 4)	Non-NCA: RHP Expressway (Alt 5)	Non-NCA: SG Blvd/100 S One-way Couplet (Alt 7)
RHP/Bluff Street	15/B	18/B	17/B	15/B	17/B	15/B
Sunset/Bluff Street	39/D	37/D	42/D	48/D	30/C	48/D
SG Blvd/Bluff Street	123/F	71/E	71/E	82/F	67/E	[illegible]
SG Blvd/Main Street	20/C	19/B	20/C	20/C	19/B	19/B
SG Blvd/1000 East	102/F	49/D	52/D	88/F	54/D	32/C
I-15 Exit 8 SB Ramps	109/F	37/D	40/D	65/E	47/D	37/D
I-15 Exit 8 NB Ramps	25C	30/C	30/C	27/C	31/C	24/C
SG Blvd/River Road	49/D	50/D	51/D	50D	50/D	49/D
RHP/200 East	6/A	8/A	8/A	5/A	1/A	[illegible]
RHP/1000 East	125/F	29/C	27/C	67/E	21/C	38/D
I-15 Exit 10	34/C	31/C	32/C	33/C	30/C	34/C
Green Spring/ Buena Vista	34/C	34/C	33/C	34/C	29/C	42/D
Green Spring/ Telegraph Street	57/E	51/D	53/D	56/E	49/D	60/E
I-15 Exit 13 SB Ramps	19/B	27/C	24/C	21/C	19/B	20/B
I-15 Exit 13 NB Ramps	19/B	23/C	23/C	20/B	19/B	19/B

Red Hills Parkway Expressway alternative outperforms UDOT alignment in 11 of 15 key regional intersections

Source: Horrocks

EVEN THOUGH ALTERNATIVES MAY HAVE MERIT, UDOT'S PREFERRED ALIGNMENT HAS BEEN THE FOCUS

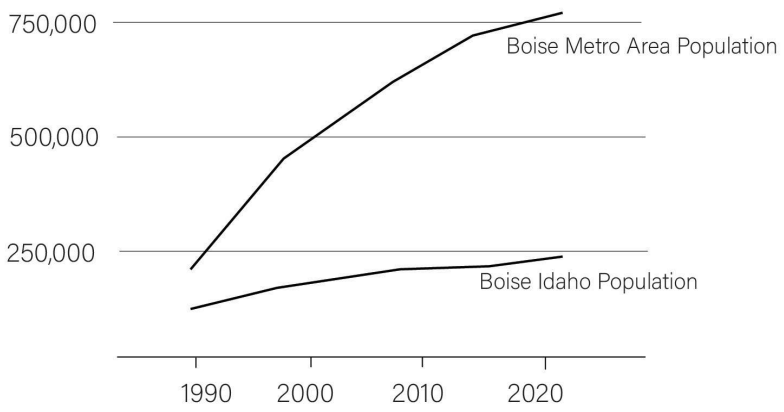
UDOT ROW	SOUTHERN	T-BONE MESA	RED HILLS PARKWAY EXP.	DOWNTOWN COUPLET
				
DESIGN ENGINEERING NEAR COMPLETION	**LESS THAN 10% CONSIDERATION**	**LESS THAN 10% CONSIDERATION**	**LESS THAN 10% CONSIDERATION**	**LESS THAN 10% CONSIDERATION**

Source: Horrocks

BECAUSE OF INDUCED DEMAND, LONG-TERM CONGESTION REDUCTION IS ELUSIVE

1. Governments spend taxpayer dollars to expand roads
2. Drivers are drawn to the new road, taking more trips than they used to
3. Developers build near the new roads, prompting even more (and longer) vehicle trips
4. The new roadway capacity becomes just as congested as before, and the region suffers from more car trips and auto dependency

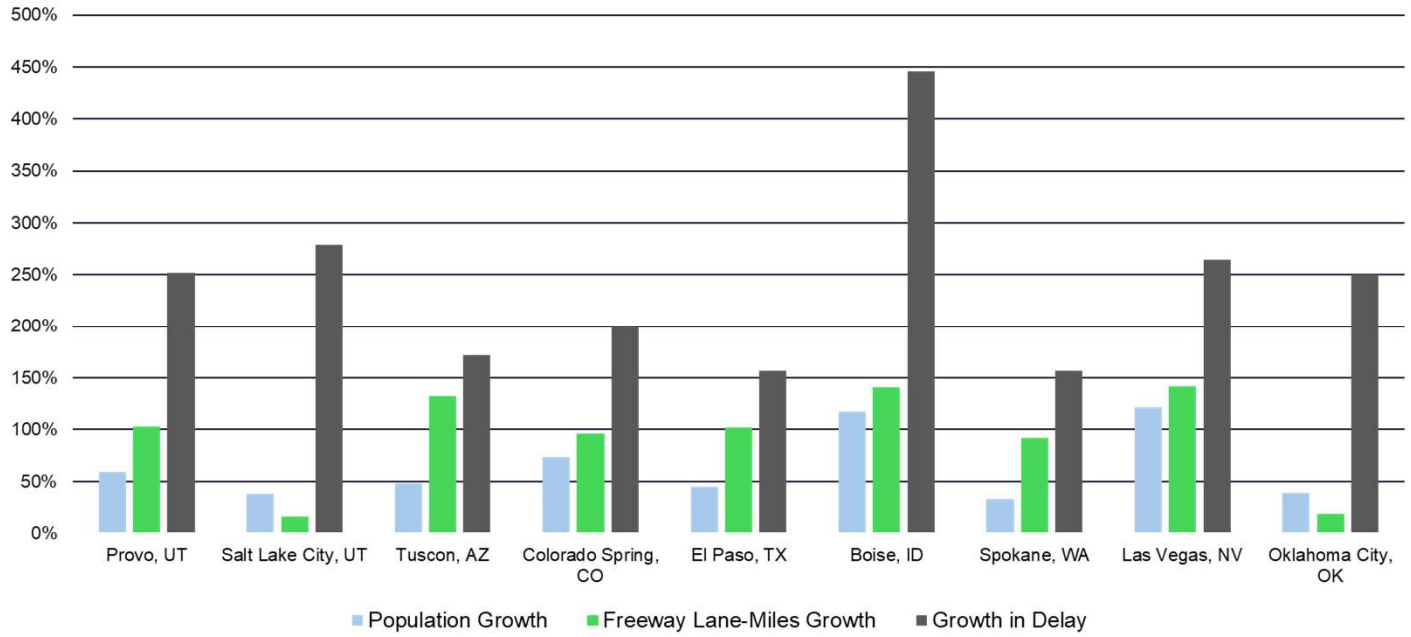
IN BOISE, LANE MILES GREW FASTER THAN POPULATION, BUT CONGESTION STILL GOT WORSE



"In Boise from 1993 to 2017: Roads expanded 141 percent while population grew 117 percent. But congestion increased 446 percent"

Source: Transportation for America

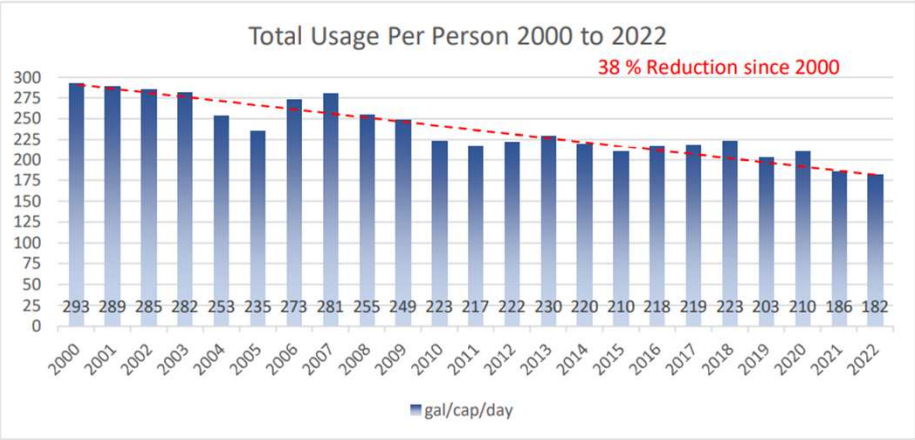
YOU CAN'T BUILD YOUR WAY OUT OF CONGESTION



Source: Transportation for America

DOES NO HIGHWAY EXPANSION MEAN NO ACTION?

THE COUNTY'S WATER CONSERVATION STRATEGIES CAN BE A MODEL FOR TRANSPORTATION



- Tiered water rates
- Incentives to repurpose unnecessary grass
- Incentives and requirements for water-efficient appliances

Source: David Condos, KUER and the Washington Co. Water Conservancy

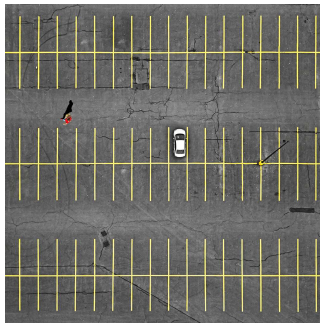
REGIONAL TOOLS FOR REDUCING DRIVING

Development patterns

Transit

Cycling and walking infrastructure

Carpooling

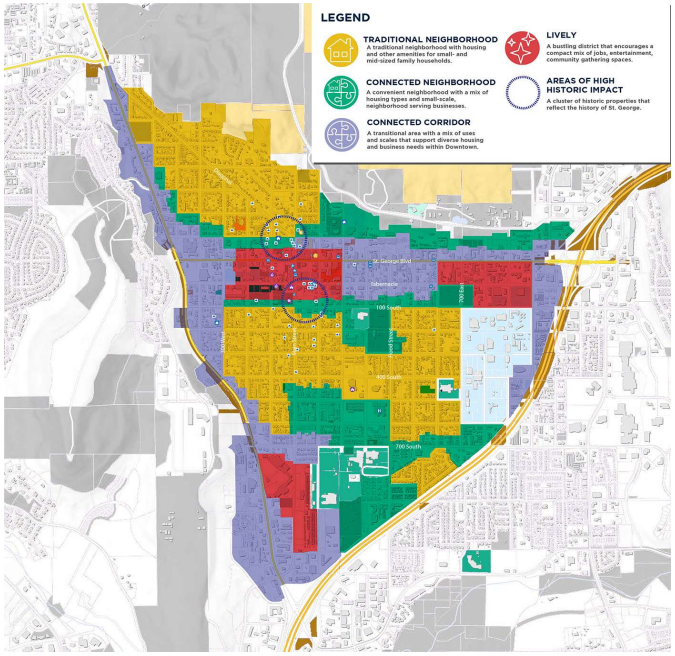


Reduce parking minimums

Employee commuting incentives

Treat driving and roads like utilities

WHAT KIND OF REGION DOES WASHINGTON COUNTY WANT TO BE?



St. George Vision 2040 Plan

"Compact Downtown land development patterns as exist today and envisioned in this Plan are inherently land efficient and water efficient compared to many other St. George neighborhoods. Accommodating a portion of growth through higher intensity infill and redevelopment offers opportunities to implement related policies of this Plan and the General Plan."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KEY TAKEAWAYS

- If you believe in the county's traffic modeling and your goal is to reduce congestion, the UDOT Alignment is not your best option
- Sprawling, auto-dependent land use patterns, which are linked to roadway expansion, are an inefficient use of land
- The Northern Corridor Highway will cost taxpayers time and money while threatening what makes Washington County so special