

Nevada Sustainable Transportation Funding Strategies Project

Advisory Working Group Meeting

April 12, 2022

Meeting location:

Association of General Contractors (AGC – North)
5400 Mill Street
Reno, Nevada

Welcome and Roll Call

Public comment period

Approval of the minutes from March 8, 2022, meeting

Preview of the day and future meeting topics

Looking ahead, each AWG meeting has an overall objective, with specific agenda items and outcomes to support that objective.



Preview of today's meeting

Meeting objective: *adjusting revenue mechanisms for funding adequacy and necessary flexibility*

- Review results of financial and qualitative analysis of the six revenue options short-listed by the AWG
- Examine two new sample revenue packages, how they perform (financial and qualitative), and how they compare against the base case (*existing revenue sources only*)
- Select a preferred mix of revenue options and identify issues that must be addressed
- Examine options for improving transportation through land use decision-making and growth management tools (part 2 of 2)

For June 14, 2022, AWG Meeting:

- Findings statements (revised based on AWG feedback)
- Draft recommendations for AWG consideration and possible adoption
- Process and schedule for final report-drafting and adoption

In-person, Las Vegas

Meeting location to be confirmed in coming weeks

HOLD: Online-only, August 9, 2022, AWG Meeting (2 hours, updates only)

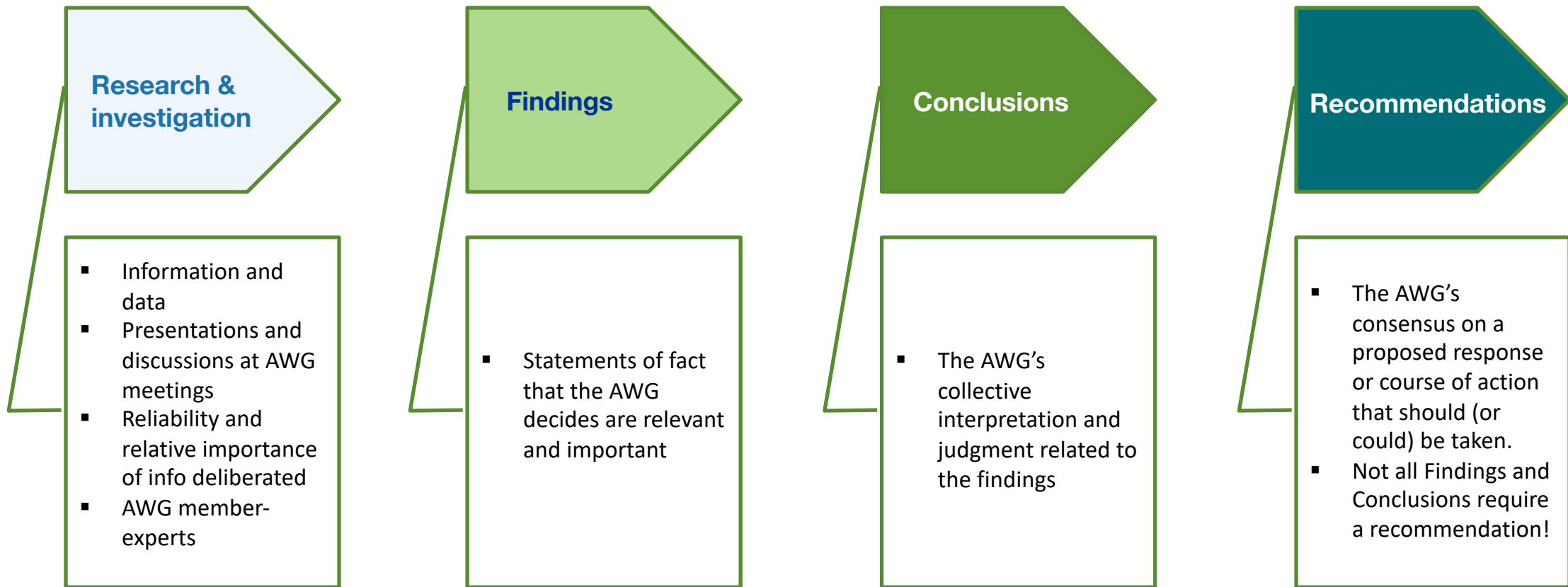
- Review of findings, conclusions, draft recommendations
- Solicit feedback from AWG members on draft

HOLD: FINAL AWG Meeting, September 14, 2022:

- Review, discuss, and approve final report and recommendations

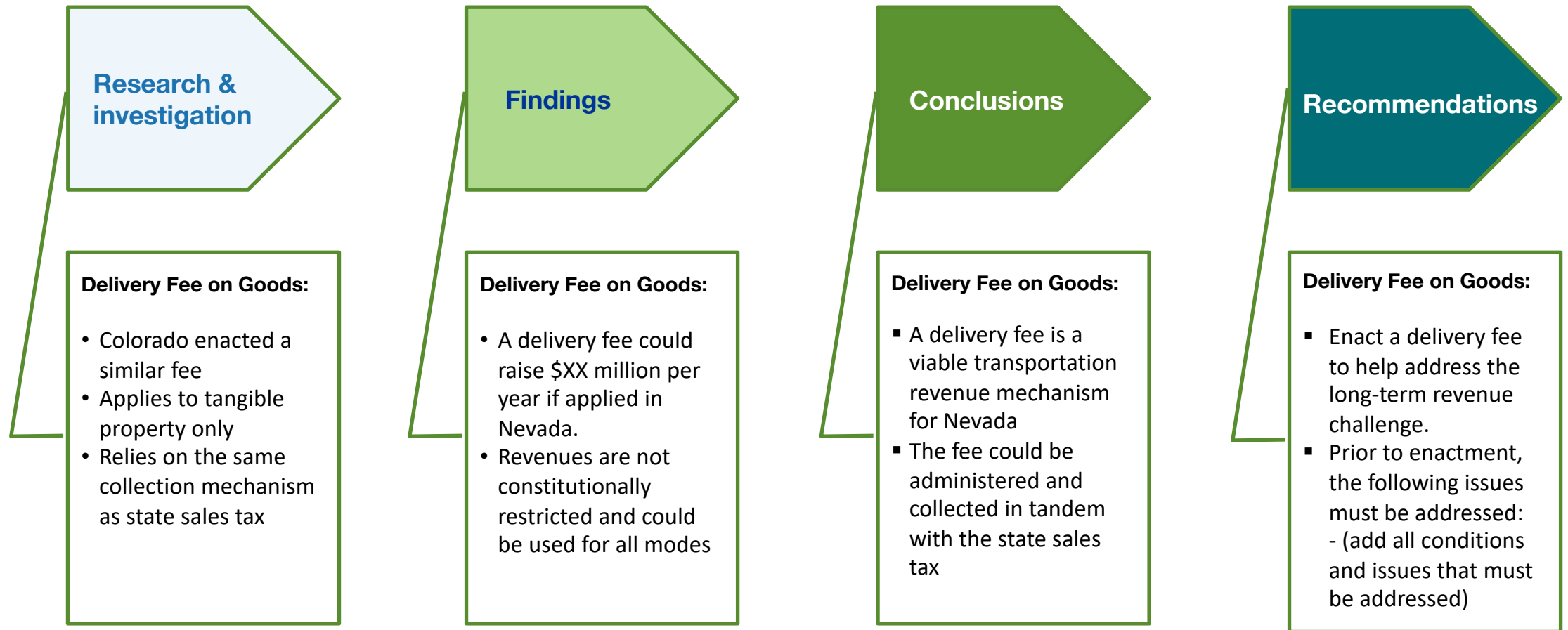
Approach to framing the findings, conclusions, & recommendations

- A **finding** is an empirical fact, based on data collected, that does not just rely on opinion (even if it is that of an expert);
- A **conclusion** synthesizes and interprets the finding and makes a reasoned judgment that corresponds to the finding.



Approach to framing the findings, conclusions, & recommendations

Example: mechanisms (not specific rates, target amounts, or specific uses of revenue)



Responses to Questions from March 8, 2022, AWG Meeting

Status of recent questions or requests for additional information

Requests for information and questions raised:

1. How many states provide general funds to support local transit systems?
2. What are some examples of transportation public-private partnerships with technology firms?
3. What is the impact on drivers if new taxes and fees are enacted? [\[provided later at today's meeting\]](#)
4. Can you summarize the research and pros and cons of impact fees?
5. Are there any jurisdictions that require developers or the land use authority (e.g., local governments) to provide a development impact statement to the state where the proposed development might have an impact on state-owned facilities?
6. Could a utility service fee (or street utility fee) be designed to serve a similar purpose as a development impact fee?



Will be provided as part of the land use section of draft report and potential findings & recommendations at June meeting

1. How many states provide general funds to support local transit systems?

Research in progress (*ETA*: June AWG meeting):

1. Among the states that provide statewide funding to support transit systems:

- Identify the source of funds by tax mechanism, rates, any formulas, annual amounts, etc.
- Identify any important stipulations. For example: revenue must be allocated proportionally to specific sub-areas, or may not be pledged for repayment of bonds, etc.

2. Among states that provide statewide funding, which ones have constitutional restrictions on the expenditure of certain transportation funds, and which do not?

- Which states without constitutional restrictions have chosen to invest their gas tax in local transit systems?

3. For states that tap into statewide funding sources to support local transit, how is the funding provided and administered?

- Is the funding provided as a direct distribution to transit agencies? Which agencies qualify, and how are amounts determined?
- Are local matching funds required? What counts as match – fare box revenue, locally-enacted taxes, etc.?
- Are there specific grant programs created for state transit assistance? Who administers them? Can funds be used for capital, operating, or both?
- What other notable programs do states have for providing state-level funding assistance to local transit?

2. What are some examples of transportation public-private partnerships with technology firms?

Development agreements: voluntary contracts between government and a private person or entity that owns or controls property within the jurisdiction, detailing the obligations of both parties to contribute to the development of the property. *Example:* transit-oriented development (TOD) projects, where government agrees to construct and provide service to transit stations, while a developer agrees to construct adjacent housing (sometimes affordable housing).

Unique partnerships: *Example:* Microsoft funding (about \$500k) for a feasibility study of a high-speed rail corridor linking Portland, Seattle and Vancouver, BC with passenger trains that would travel 250 MPH. The estimated cost of completion: \$24-\$42 billion.

Private firms provide services to improve transportation: *Example:* INRIX provides traffic data to regional, state, and federal government agencies. INRIX offers public agencies reduced rates for their real-time predictive traffic modeling services in exchange for government's provision of key roadway data that is otherwise difficult to obtain.

Transportation technology can be leveraged for revenue collection purposes: *Example:* Vehcon is a firm with proprietary, patented technology that can lower the cost of vehicle mileage reporting without using in-vehicle devices. Vehcon has provided their services for several states that are designing lower-cost methods of mileage reporting for future road usage charge systems.

Results of further analysis: financial, policy, and comparing against the base case

Based on AWG discussion at the March 2022 meeting, **six revenue mechanisms** had strong support to move forward for more detailed analysis.

Near-term remaining options to research

Consensus or strong support for:

- Increased fuel excise tax rate
- Increased value-based GST (*F*)
- Parcel delivery fee (*F*)
- Increased base-vehicle licensing fee
- Inflation indexing on per-gallon excise fuel tax

Continue research (but not as a current statewide funding option)

Consensus or strong support to research:

- Street utility fee
- Carbon tax (*various forms*) (*F*)

F = flexible funding source

Mid-or-longer term remaining options to research

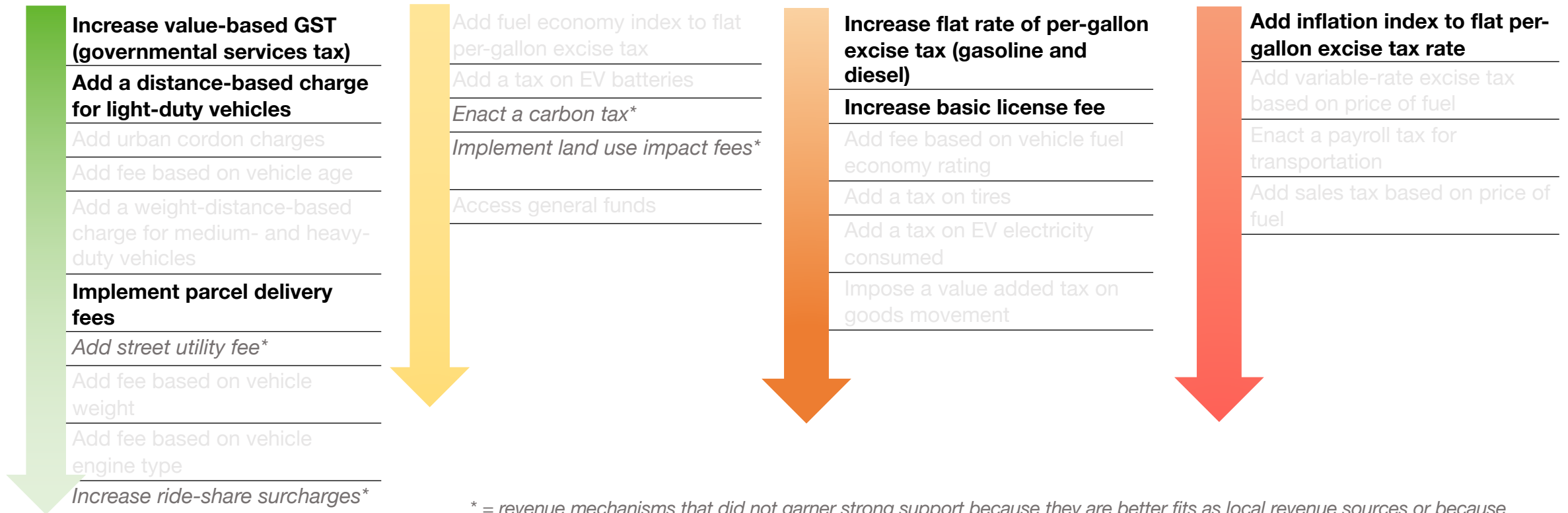
Consensus or strong support for:

- Light vehicle RUC (*various forms*)
- Increased value-based GST (*F*)
- Parcel delivery fee (*F*)
- Increased base vehicle licensing fee
- Inflation index on per-gallon excise fuel tax

Continue research on *policy issues* that may impact future funding requirements or revenue:

- Land use and transportation
- Private sector partnerships in revenue collection

The AWG's shortlist of revenue options includes some top performers, while other options' performance could be improved with adjustments.



* = revenue mechanisms that did not garner strong support because they are better fits as local revenue sources or because they have impacts beyond transportation funding and require more research

NEAR-TERM OPTIONS

- Increase fuel excise tax rate
- Increase value-based GST (flexible transportation uses)
- Implement parcel delivery fees (flexible transportation uses)
- Increase base-vehicle licensing fee
- Add inflation index to flat per-gallon excise tax rate

NEAR-TERM OPTIONS

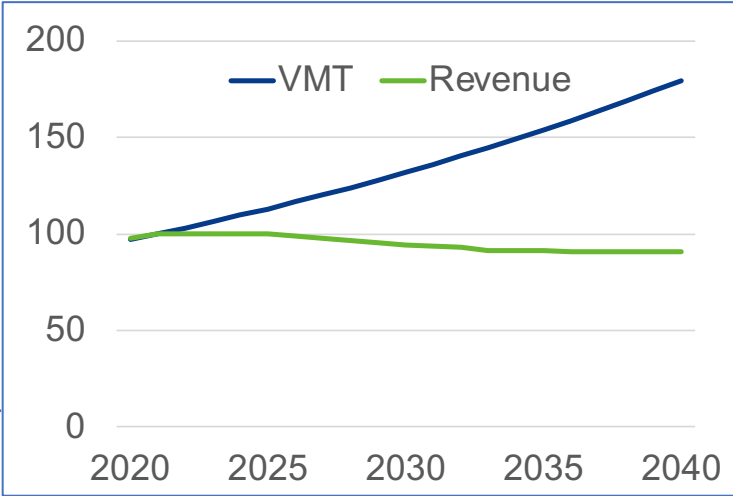
Increase the rate of flat per-gallon excise tax (1 of 2)

Raising the existing fuel tax:

The table below illustrate additional revenue that could be generated annually by increasing the fuel tax (gasoline and diesel) by the amounts indicated. This analysis assumes “year 1” is 2025.

Increase amount (millions):

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	10-year total
1 cent	\$14.0	\$14.0	\$14.0	\$14.0	\$14.0	\$14.1	\$14.1	\$14.2	\$14.3	\$14.3	\$141.1
2 cents	\$28.0	\$28.0	\$28.0	\$28.0	\$28.1	\$28.2	\$28.3	\$28.4	\$28.5	\$28.7	\$282.1
3 cents	\$41.9	\$41.9	\$42.0	\$42.0	\$42.1	\$42.3	\$42.4	\$42.6	\$42.8	\$43.0	\$423.2
4 cents	\$55.9	\$55.9	\$56.0	\$56.1	\$56.2	\$56.4	\$56.6	\$56.8	\$57.1	\$57.4	\$564.2
5 cents	\$69.9	\$69.9	\$70.0	\$70.1	\$70.2	\$70.4	\$70.7	\$71.0	\$71.4	\$71.7	\$705.3
6 cents	\$83.9	\$83.9	\$83.9	\$84.1	\$84.3	\$84.5	\$84.9	\$85.2	\$85.6	\$86.1	\$846.3
7 cents	\$97.9	\$97.9	\$97.9	\$98.1	\$98.3	\$98.6	\$99.0	\$99.4	\$99.9	\$100.4	\$987.4
8 cents	\$111.8	\$111.8	\$111.9	\$112.1	\$112.4	\$112.7	\$113.1	\$113.6	\$114.2	\$114.8	\$1,128.4
9 cents	\$125.8	\$125.8	\$125.9	\$126.1	\$126.4	\$126.8	\$127.3	\$127.8	\$128.4	\$129.1	\$1,269.5
10 cents	\$139.8	\$139.8	\$139.9	\$140.1	\$140.4	\$140.9	\$141.4	\$142.0	\$142.7	\$143.5	\$1,410.5
15 cents	\$209.7	\$209.7	\$209.9	\$210.2	\$210.7	\$211.3	\$212.1	\$213.0	\$214.1	\$215.2	\$2,115.7
20 cents	\$279.6	\$279.6	\$279.8	\$280.2	\$280.9	\$281.8	\$282.8	\$284.0	\$285.4	\$286.9	\$2,821.0



NEAR-TERM OPTIONS

Increase the rate of flat per-gallon excise tax *(2 of 2)*



Opportunities to improve performance:

► Flexibility

Sidewalks and other pavement-related improvements might be allowable if clarifying legal advice is provided by the Nevada Attorney General's office.

► Transparency

The gas tax is not detailed on any receipt end customers receive when buying fuel. Many people believe that taxes paid rise along with the price of gasoline, as is the case with ad valorem taxes like sales tax. Posting the per gallon fuel tax rate at the pump and/or detailing fuel taxes paid on purchase receipts could improve transparency.

► GHG emissions

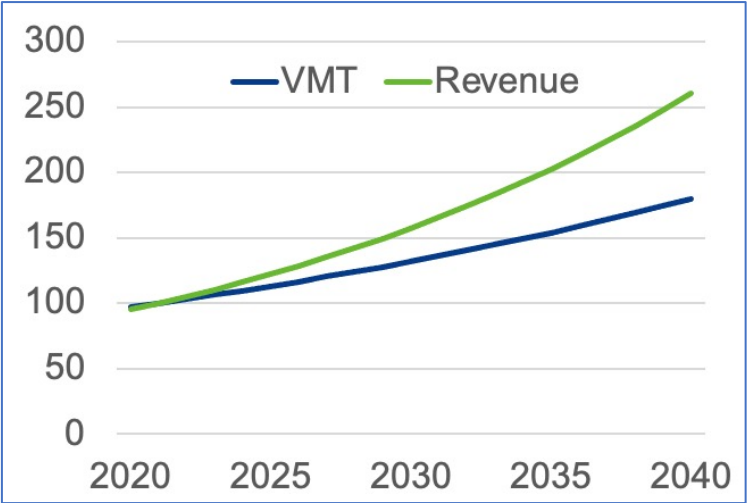
Research indicates that the demand for fuel is inelastic to small and/or short-term price increases. A meaningful demand reduction is achieved only through sustained high retail prices of gasoline due to fluctuations in the price of oil, but a similar effect can also be achieved through sufficiently high rates of taxation.

Issues that must be addressed:

- How can the additional revenue from a fuel tax increase be sustained given declining fuel consumption?
- How can fuel tax increases be accomplished in the face of sharp increases in the underlying price of gasoline?
- How can electric vehicles pay for road usage?
- How can the user-pays principle be preserved?
- How can disparate impacts to lower income and rural drivers be addressed?

NEAR-TERM OPTIONS

Increase the value-based rate of the governmental services tax (GST) *(page 1 of 2)*



Increase amount (millions):

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	10-year total
0.05%	\$47.2	\$49.6	\$52.2	\$54.9	\$57.7	\$60.7	\$63.8	\$67.1	\$70.6	\$74.2	\$597.8
0.10%	\$94.3	\$99.2	\$104.3	\$109.7	\$115.4	\$121.3	\$127.6	\$134.2	\$141.1	\$148.4	\$1,195.7
0.15%	\$141.5	\$148.8	\$156.5	\$164.6	\$173.1	\$182.0	\$191.4	\$201.3	\$211.7	\$222.6	\$1,793.5
0.20%	\$188.7	\$198.4	\$208.7	\$219.4	\$230.8	\$242.7	\$255.2	\$268.4	\$282.3	\$296.9	\$2,391.4

NEAR-TERM OPTIONS

Increase the value-based rate of the governmental services tax (GST) *(page 1 of 2)*



Opportunities to improve performance:

► GHG emissions

The current GST is levied strictly on vehicle value, regardless of usage or the emissions profile of the vehicle. To incentivize purchase of cleaner vehicles, rebates or rate discounts could be offered for ultra-low emission vehicles (ULEVs) or zero emission vehicles (ZEVs). Because this revenue source is robust (grows at a rate faster than roadway usage as measured by vehicle miles traveled), if appropriately structured, rebates or discounts could help incentivize consumer adoption of cleaner vehicles during a transitional period.

► User equity

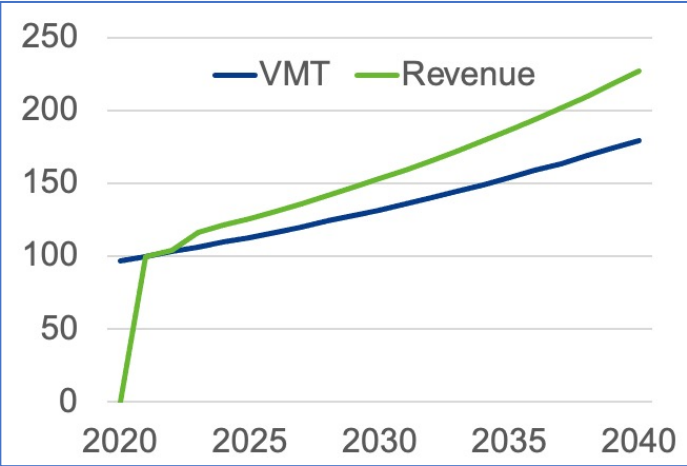
Vehicle value does not correlate with usage, making it difficult for GST to serve as a user-pay or cost recovery tool. Usage-based rate factors could be applied. Alternatively, GST could be used primarily as a flexible funding source for non-highway expenditures, making the nexus with roadway usage less relevant.

Issues that must be addressed:

- How can GST be dedicated to transportation?
- How can tax increases be tolerable for the average consumer?
- How can GST retain its flexible transportation funding capabilities?

NEAR-TERM OPTIONS

Implement a delivery fee on tangible goods *(page 1 of 2)*



Increase amount (millions):

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	10-year total
25 cents/ delivery	\$38.3	\$39.4	\$40.6	\$41.8	\$43.1	\$44.3	\$45.7	\$47.0	\$48.5	\$49.9	\$438.4
50 cents/ delivery	\$76.5	\$78.8	\$81.2	\$83.6	\$86.1	\$88.7	\$91.3	\$94.1	\$96.9	\$99.8	\$876.9
75 cents/ delivery	\$114.7	\$118.2	\$121.7	\$125.4	\$129.1	\$133.0	\$137.0	\$141.1	\$145.3	\$149.7	\$1,315.3
\$1 dollar/ delivery	\$153.0	\$157.6	\$162.3	\$167.2	\$172.2	\$177.4	\$182.7	\$188.2	\$193.8	\$199.6	\$1,753.8

NEAR-TERM OPTIONS

Implement a delivery fee on tangible goods *(page 2 of 2)*



Opportunities to improve performance:

► Efficiency

The delivery fee could be applied and collected in the same manner as the Nevada sales tax, which is legally owed on all tangible property whether purchased from a brick-and-mortar store or ordered online. Moving the point of tax collection to the retailer instead of the shipping company takes advantage of existing invoicing, payment and tax collection infrastructure already in place.

► Transparency

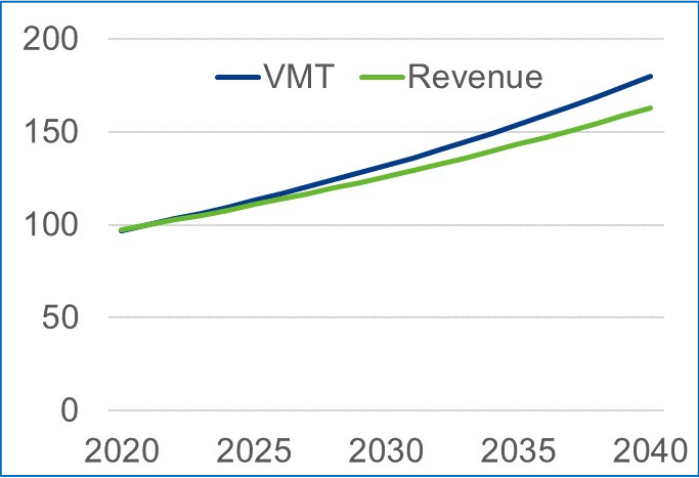
If enacted, the legislature could require the seller of the goods to specifically disclose by line item the delivery fee on the invoice or receipt provided to the consumer.

Issues that must be addressed:

- Who pays the delivery fee?
- What items are subject to the fee?
- How can a delivery fee remain dedicated to transportation funding?

NEAR-TERM OPTIONS

Increase the basic vehicle registration fee *(page 1 of 2)*



Increase amount (in millions):

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	10-year total
\$10	\$25.4	\$26.0	\$26.7	\$27.4	\$28.1	\$28.9	\$29.6	\$30.4	\$31.2	\$32.0	\$285.6
\$20	\$50.8	\$52.1	\$53.4	\$54.8	\$56.2	\$57.7	\$59.2	\$60.7	\$62.3	\$63.9	\$571.2
\$30	\$76.1	\$78.1	\$80.1	\$82.2	\$84.4	\$86.6	\$88.8	\$91.1	\$93.5	\$95.9	\$856.8
\$42 (to \$75 total)	\$106.6	\$109.4	\$112.2	\$115.1	\$118.1	\$121.2	\$124.3	\$127.6	\$130.9	\$134.3	\$1,199.6

NEAR-TERM OPTIONS

Increase the basic vehicle registration fee *(page 2 of 2)*



Opportunities to improve performance:

► Social equity

Since the fee is fixed across all vehicles the incidence falls heaviest on those with the lowest incomes. Structuring the fee so that older vehicles pay slightly less is one way to lessen the impact on lower-income households, who tend to own older vehicles.

► User equity

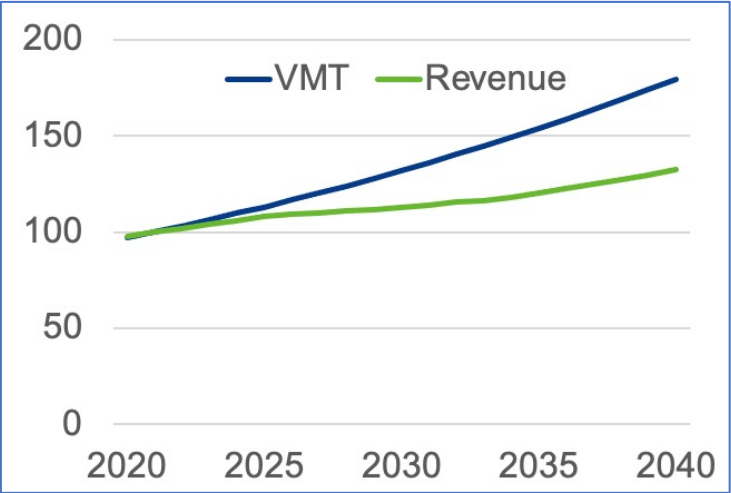
As currently proposed, the license fee increase on passenger vehicles does not consider the impacts that different weight vehicles have on public roadways. To improve user equity, the fee could include a vehicle weight component so that the heaviest vehicles pay more.

Issues that must be addressed:

- Should all vehicles pay the same amount?
- What is the cumulative impact of vehicle-related tax and fee increases?

NEAR-TERM OPTIONS

Add inflation index to flat per-gallon fuel
excise tax rate *(page 1 of 2)*



Inflation at 2% per year applied to current state gasoline and diesel taxes:

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	10-year total
2% inflation	\$4.8	\$9.6	\$14.6	\$19.6	\$24.9	\$30.2	\$35.8	\$41.4	\$47.3	\$53.4	\$281.5

NEAR-TERM OPTIONS

Add inflation index to flat per-gallon fuel excise tax rate *(page 2 of 2)*



Opportunities to improve performance:

Issues that must be addressed:

- Can revenue from inflation index be counted as “new revenue”?
- Will caps or periodic renewals be required?
- Indexing fuel tax revenue has same drawbacks as the gas tax.

MID- AND LONGER-TERM OPTIONS

- **Light-vehicle RUC (*various forms*)**

- *Increase value-based GST*
- *Parcel delivery fee*
- *Increase base-vehicle licensing fee*
- *Inflation index on per-gallon excise fuel tax*



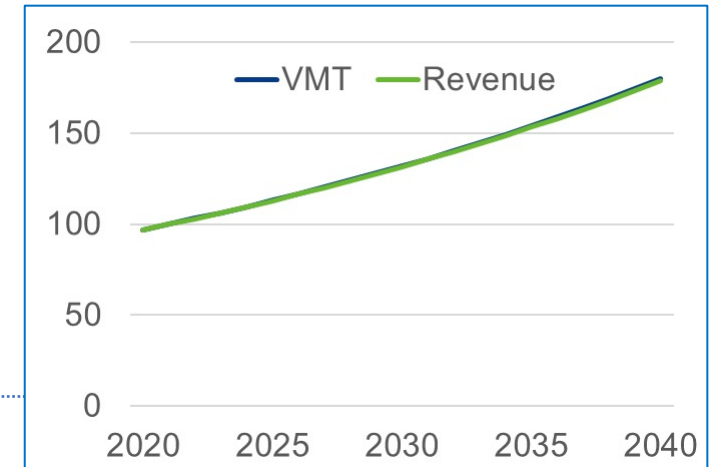
(covered in previous section)

MID- AND LONGER-TERM OPTIONS

Road usage charge (RUC) for light vehicles *(page 1 of 3)*

Implementing a per-mile road usage charge on passenger vehicles:

The table below illustrates gross revenue generating potential of RUC beginning in year 7 (2031) at various rates, including 0.6 cents per mile (approximately equal to the portion of gasoline tax currently collected and deposited in the State Highway Fund).



Per-mile rate:

	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	10-year total
0.6 cents per mile	\$190.7	\$196.6	\$202.7	\$209.0	\$215.5	\$222.2	\$229.1	\$236.2	\$243.5	\$251.0	\$2,196.7
1 cent per mile	\$320.6	\$330.5	\$340.7	\$351.3	\$362.2	\$373.4	\$385.0	\$396.9	\$409.2	\$421.9	\$3,691.8
1.5 cents per mile	\$480.8	\$495.7	\$511.1	\$527.0	\$543.3	\$560.1	\$577.5	\$595.4	\$613.9	\$632.9	\$5,537.8
2 cents per mile	\$641.1	\$661.0	\$681.5	\$702.6	\$724.4	\$746.9	\$770.0	\$793.9	\$818.5	\$843.9	\$7,383.7
2.5 cents per mile	\$801.4	\$826.2	\$851.9	\$878.3	\$905.5	\$933.6	\$962.5	\$992.3	\$1,023.1	\$1,054.8	\$9,229.6

MID- AND LONGER-TERM OPTIONS

Road usage charge (RUC) for light vehicles *(page 2 of 3)*



Opportunities to improve performance:

► Social equity

To address social equity, RUC could facilitate lifeline rates (targeted subsidies based on the income status of the owner). Lifeline rates are common for other public utilities. Other accommodations could be made to improve social equity, such as periodic payment plans.

► GHG emissions

RUC can align more directly with GHG emission goals by varying rates or offering targeted rate discounts based on a vehicle's emissions profile.

► Efficiency

While the first few states to enact RUC have chosen to implement systems that rely on in-vehicle technology, some states are developing low-tech, lower-cost approaches for their base RUC system. Nevada could choose a similar low-cost, low-tech approach.

Issues that must be addressed:

- Will in-vehicle devices be required?
- Disproportionate impacts to rural communities?
- How will privacy be protected?
- What are the impacts to Nevada DMV's budget and staffing?
- How will Nevada transition from the current gas tax system to RUC?

MID- AND LONGER-TERM OPTIONS

Road usage charge (RUC) for light vehicles *(page 3 of 3)*

Understanding cost and complexity of collecting distance-based charges:

A key issue raised by the AWG to address in transitioning toward a distance-based charge is the cost and complexity of collecting data and fees. Experience and testing from other jurisdictions offers lessons learned and direction for future research and implementations.

Key functions of a road usage charge and cost drivers:

- **Collecting distance data**

The foundation of a RUC is collecting distance traveled data as the basis for the fee, or for enforcement of a fee. This is the only function needed in a RUC system that does not already exist. Nevada DMV has been collecting odometer data for over two years with lessons learned on issues such as reporting accuracy, compliance, and customer service.

- **Collecting fees**

Collecting RUC could be done along with other vehicle fees or separately by third-party agents depending on the operating model adopted. If collected with existing fees, RUC could represent a hardship for some customers to pay a one-time fee. If collected more frequently by third parties, the cost to administer the program could increase.

- **Enforcing payment**

RUC could be enforced similarly to or alongside existing vehicle registration fees including GST. As with all vehicle fees, some nonpayment will lead to lost revenue and collections costs.

Marginal RUC collection cost under various technology scenarios:

	Order of magnitude cost per vehicle	Trade-offs
Report odometer reading via emissions inspection	Negligible (once operational)	Incomplete fleet coverage
Self report odometer reading via web portal or customer agent	Negligible (once operational)	Accuracy, compliance, customer service
Report odometer reading via a photo	~\$10/year	More customer work, additional integration for DMV
Report distance traveled via plug-in devices	~\$100/year	Ability to exempt miles off public roads in NV, offer additional services
Report distance traveled via onboard computer	TBD	Pathway to widespread data availability unclear

Short break

***Continued...*discussion of financial and policy analysis results**

NEW sample groupings of revenue mechanisms

Working only from the revenue options under consideration, the project team developed two new sample revenue packages.

	Sample A	Sample B
Near term funding:	<ul style="list-style-type: none"> ▪ One-time gas and diesel tax increase ▪ Basic vehicle registration fee increase ▪ Delivery fee on tangible goods (<i>F</i>) ▪ GST increase, dedicated for transportation purposes (<i>F</i>) 	<ul style="list-style-type: none"> ▪ Phased in gas and diesel tax increase ▪ Basic vehicle registration fee increase (staggered rates) ▪ Delivery fee on tangible goods (<i>F</i>) ▪ GST transfer and permanent dedication for transportation purposes (<i>F</i>) ▪ GST increase, dedicated for transportation purposes (<i>F</i>)
Longer-term sustainable funding:	<ul style="list-style-type: none"> ▪ Gradual transition to a road usage charge for light-duty vehicles 	<ul style="list-style-type: none"> ▪ Gradual transition to a road usage charge for light-duty vehicles ▪ Index state gas tax, delivery fee (<i>F</i>), and road usage charge to inflation

F = flexible funding source for transportation

Sample Package A: \$491 million in year 1 (\$6.7 billion over 10 years)

State highway funding – *near term*

Statewide fuel tax increase – 8 cents

A one-time 8 cent increase in the statewide per-gallon fuel excise tax (both gasoline and diesel). This takes the portion of fuel taxes dedicated to the State Highway Fund from 17.3 to 25.3 cents per gallon of gasoline and from 26.5 to 34.5 cents per gallon of diesel.

Increase in basic vehicle license fee

A one-time \$30 increase in the basic vehicle license fee for all passenger vehicles. This takes the cost of registration from \$33 to \$63 per year.

Mid- and long-term sustainable revenue

Road usage charge – light duty vehicles

Establish a per-mile charge for light-duty vehicles in Nevada. Research, including potential federally-funded research and testing, must address critical policy, administrative, and financial issues. Report results by December 2026. The sample package assumes a per-mile charge would be applied to all vehicles beginning in 2031 at a rate of 1 cent per mile.

Highway or Flexible transportation funding

Dedicated increase in GST

An additional 0.2% increase in the statewide GST, statutorily dedicated for statewide transportation needs, available for all modes (highways, sidewalks, transit grants, etc.).

Delivery fee on tangible goods

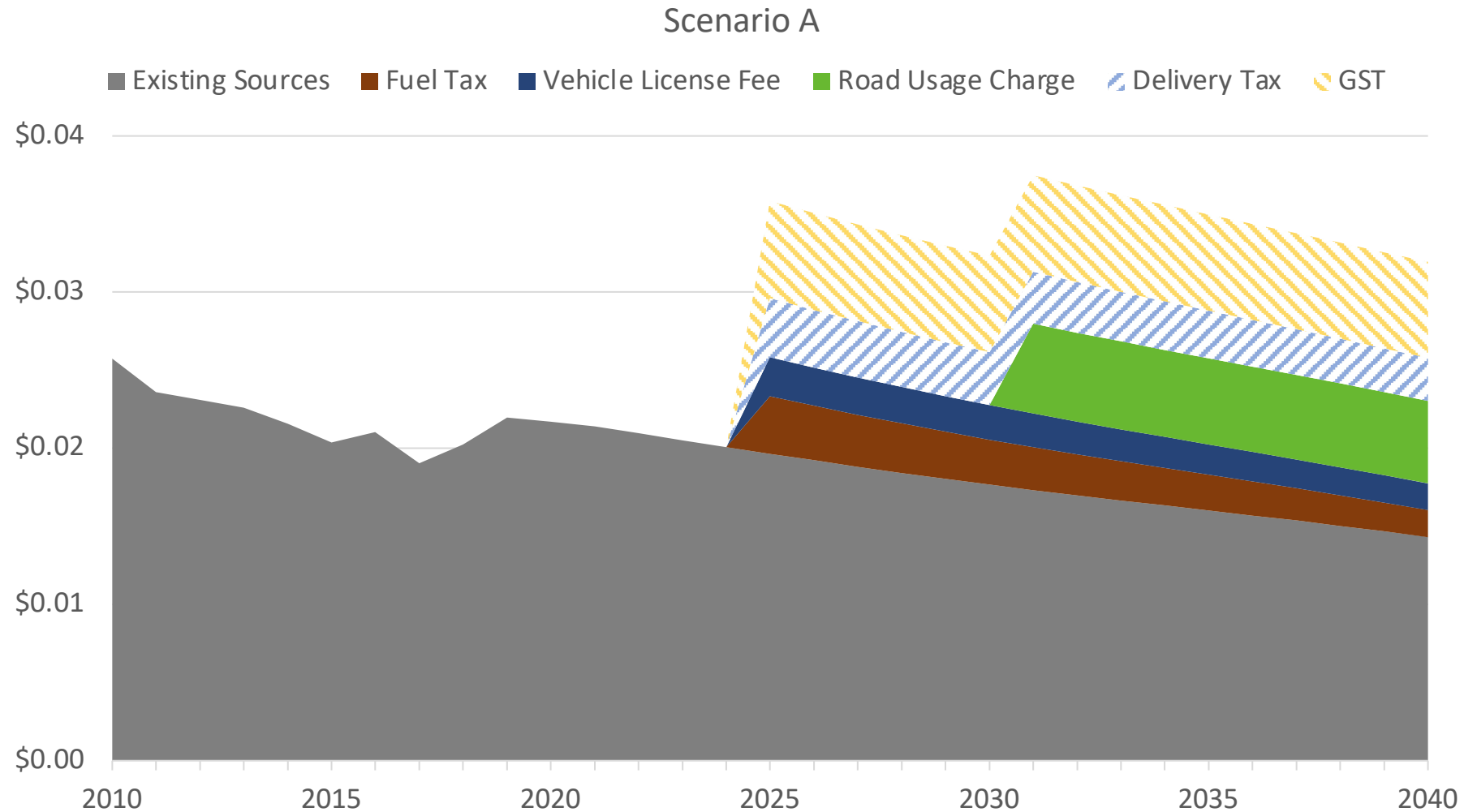
A tax of 75 cents would be collected from sellers of goods (including food services) that are delivered to Nevada addresses.

Sample Package A: \$491 million in year 1 (\$6.7 billion over 10 years)

Sample Package A generates \$491 million in new revenue if implemented in 2025, growing to \$926 million in 2034, averaging \$670 million per year over the 10-year time frame.

Year	Fuel Tax	Vehicle License Fee	Road Usage Charge	Delivery Fee	GST	Total
2025	\$112	\$76	\$-	\$115	\$189	\$491
2026	\$112	\$78	\$-	\$118	\$198	\$507
2027	\$112	\$80	\$-	\$122	\$209	\$522
2028	\$112	\$82	\$-	\$125	\$219	\$539
2029	\$112	\$84	\$-	\$129	\$231	\$557
2030	\$113	\$87	\$-	\$133	\$243	\$575
2031	\$113	\$89	\$237	\$137	\$255	\$832
2032	\$113	\$91	\$247	\$141	\$268	\$862
2033	\$114	\$93	\$258	\$145	\$282	\$893
2034	\$114	\$96	\$268	\$150	\$297	\$926

Sample A increases the revenue generated per mile driven to around 3.5 at its peak, but declining in real terms



Sample A: Driver profiles and impacts

Driver A



Annual Income: \$50K



Primary Vehicle: **2015 Toyota Tundra**



16

MPG

10k

Annual miles
traveled

Vehicle Use Pattern:

Frequent short trips, suburban driving

18

Pkgs
Delivered
per year

1-2

Pkgs
per Month

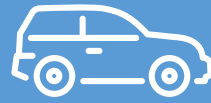
Driver B



Annual Income: \$62K (median
household income in NV)



Primary Vehicle: **2017 Ford Explorer**



21.5

MPG

11k

Annual miles
traveled

Vehicle Use Pattern:

Daily commute

36

Pkgs
Delivered
per year

2-4

Pkgs
per Month

Driver C



Annual Income: \$125K



Primary Vehicle: **2021 Tesla Model 3**



141

MPGe

12k

Annual miles
traveled

Vehicle Use Pattern:

Daily commute, urban use, weekend rural use

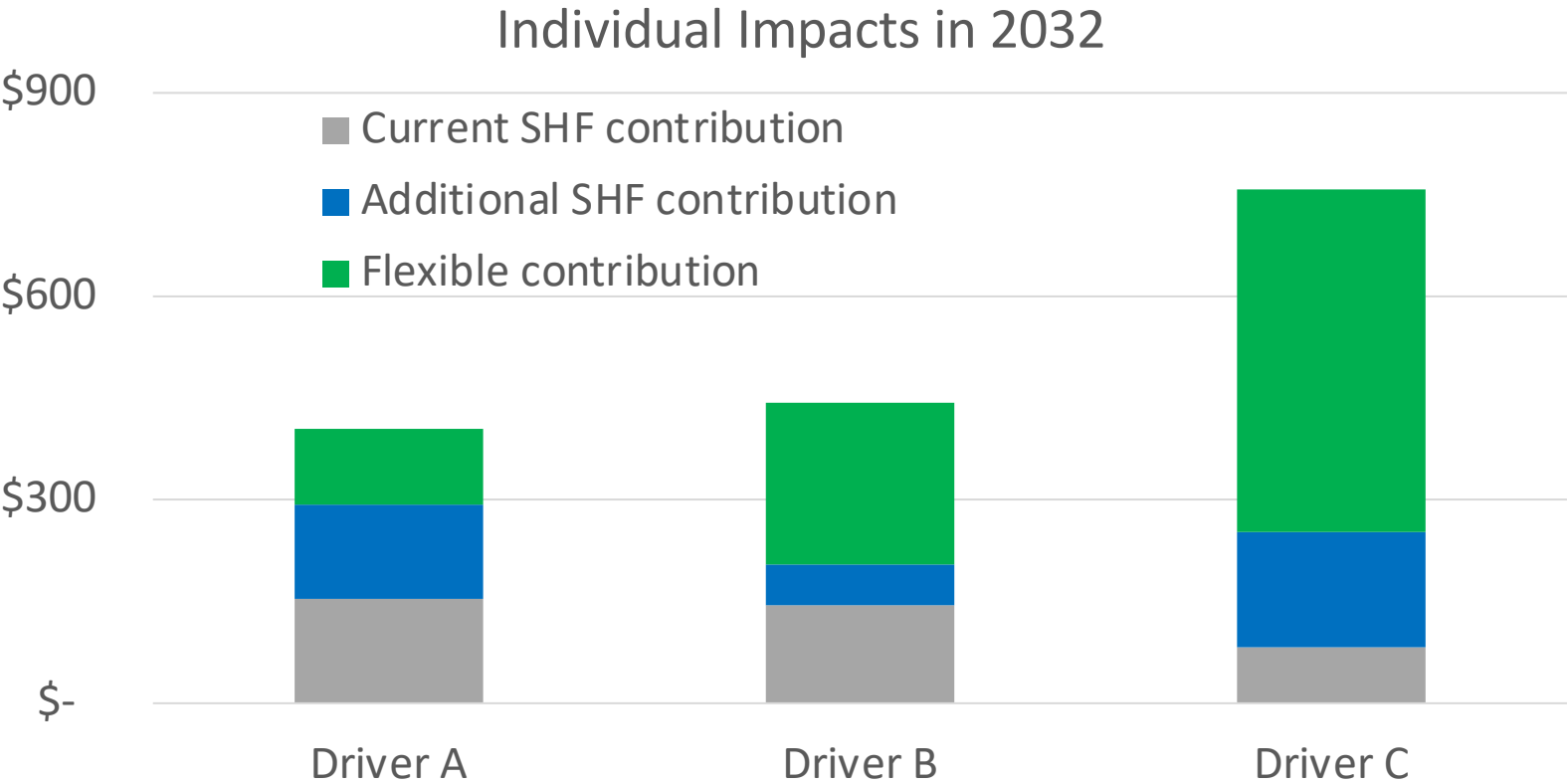
52

Pkgs
Delivered
per year

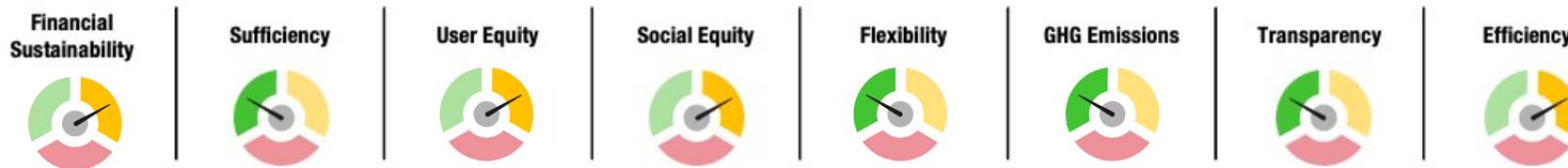
1

Time
per Week

Sample A: Driver profiles and impacts



Sample A: Qualitative assessment (performance relative to Guiding Principles)



Financial Sustainability and Sufficiency

At the rates proposed in Sample A, the package substantially improves the sufficiency of revenue for transportation needs until about 2032. Yet even with the all-at-once gas tax increase, revenues begin to erode significantly thereafter as the gas tax is still relied upon, with the mileage-based charge acting strictly as a supplement in the mid- and longer term.

User equity

Continued reliance on fuel taxes in the mid- and longer-term impairs the user equity score. In addition, Sample A provides no means for collecting roadway use revenue from electric vehicles in the near term.

Social equity

Vehicle fuel economy increases with income. Lower-income vehicle owners bear a greater share of fuel tax increases on average, per mile driven. In addition, increases in the basic vehicle registration fee also impacts lower-income households disproportionately.

Flexibility

Sample A provides substantial revenue from flexible funding sources.

GHG emissions

Depending on rate decisions, the mileage-based charges can support GHG emissions goals. Increasing the motor fuels tax also supports GHG reduction goals.

Transparency

Although fuel tax increases are not transparent at time of purchase, vehicle value-based taxes (GST), delivery fees, and mileage-based charges offer an opportunity for consumers to see detailed receipts of their costs.

Efficiency

Fuel taxes are among the least costly to collect, with 2% of revenue going to fuel distributors and overall costs of administration less than 4%. The other revenue mechanisms in Sample A leverage existing tax collection processes, except the mileage-based charge, which requires new processes and IT capabilities.

Sample Package B: \$421 million in year 1 (\$7.8 billion over 10 years)

State highway funding – *near term*

Statewide fuel tax increase – 9 cents, phased in

A 9-cent increase in the statewide per-gallon fuel excise tax (both gasoline and diesel) is phased in with 3 cents in year 1, 3 cents in year 2, and 3 cents in year 3.

Increase in basic vehicle license fee

A one-time \$40 increase in the basic vehicle license fee for all passenger vehicles, taking the annual cost of licensing from \$33 to \$73. For vehicles older than 7 years, the increase is \$20, taking the annual cost to \$53. The average increase across all vehicles in this scenario is \$30.

Mid- and long-term sustainable revenue

Road usage charge – light duty vehicles

Establish a per-mile charge for light-duty vehicles in Nevada. Research, including potential federally-funded research and testing, must address critical policy, administrative, and financial issues. Report results by December 2026. This sample package assumes a per-mile charge would begin in 2027 on electric vehicles only at a rate of 0.5 cents per mile, increasing by 0.1 cents per mile per year until 2030. In 2031, all vehicles would pay a rate of 1.5 cents per mile and the gasoline tax would be eliminated.

Index fuel taxes, licensing fees, road usage charge, and delivery fee to inflation

The increased rate of statewide fuel tax (gasoline and diesel) would be indexed to inflation, as would the portion of existing gasoline and diesel tax rates for sales outside of Clark and Washoe Counties. The rate of the basic vehicle license fee, the per-mile road usage charge (starting at 1.5 cents in 2031), and the delivery fee (starting at 75 cents in 2025) would all be indexed to inflation as well.

Highway or Flexible transportation funding

Dedicated increase in GST

Statutorily dedicate 0.1% of the existing GST (vehicle value tax) to the State Highway Fund. This effectively recaptures GST revenue that was diverted to general government purposes in prior years.

An additional 0.1% increase in the statewide GST, statutorily dedicated for statewide transportation needs, available for all modes (highways, sidewalks, transit grants, etc.)

Delivery fee on tangible goods

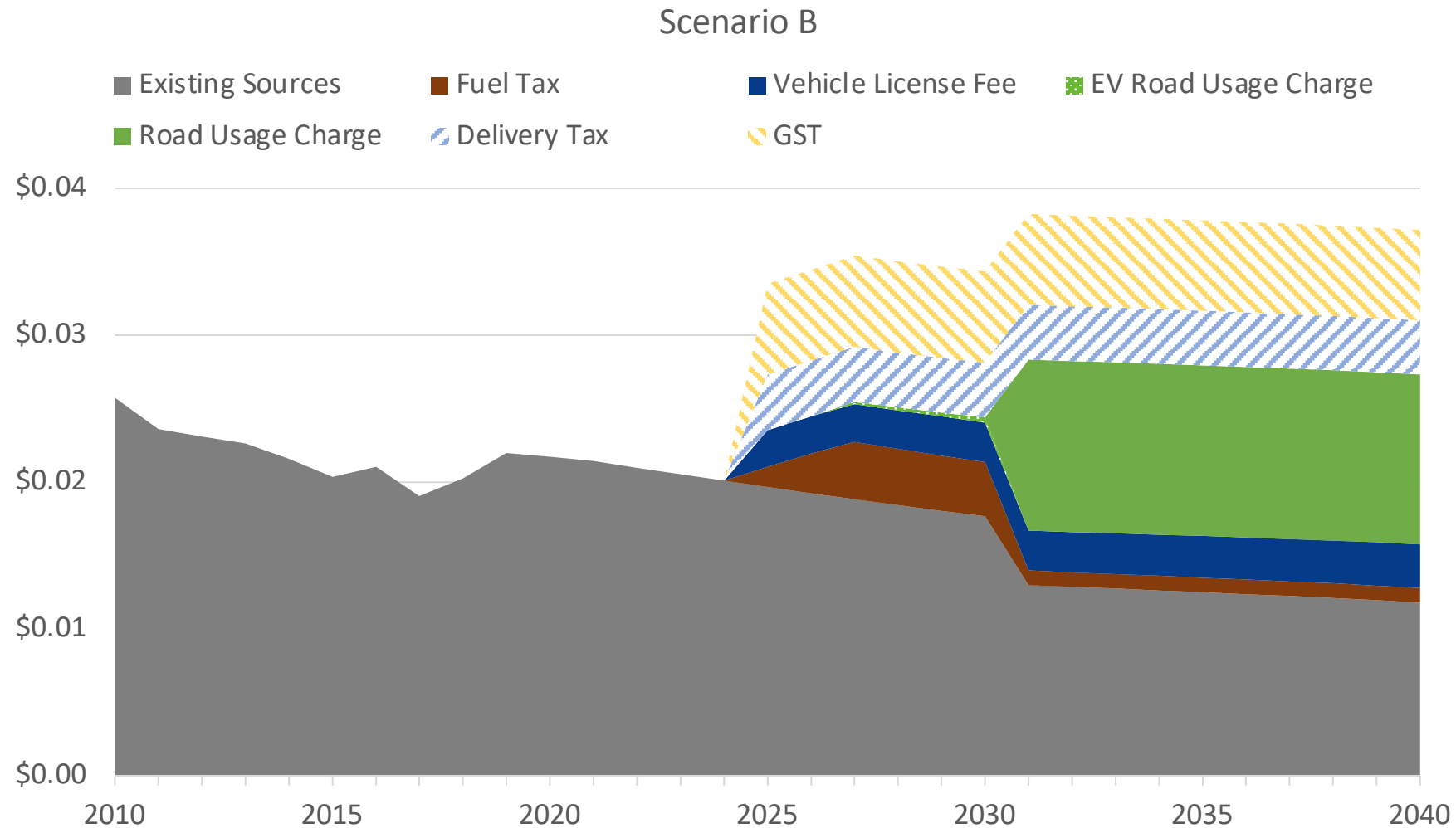
A tax of 75 cents would be collected from sellers of goods (including food services) that are delivered to Nevada addresses.

Sample Package B: \$421 million in year 1 (\$7.8 billion over 10 years)

Sample Package B generates \$421 million in new revenue if implemented in 2025, growing to \$1,218 million in 2034, averaging \$784 million per year over the 10-year time frame.

Year	Fuel Tax	Vehicle License Fee	Road Usage Charge	Delivery Fee	GST	Total
2025	\$42	\$76	\$-	\$115	\$189	\$421
2026	\$87	\$81	\$-	\$121	\$198	\$487
2027	\$132	\$87	\$5	\$127	\$209	\$558
2028	\$136	\$93	\$7	\$133	\$219	\$588
2029	\$140	\$99	\$10	\$140	\$231	\$619
2030	\$144	\$105	\$14	\$147	\$243	\$653
2031	\$41	\$112	\$481	\$154	\$255	\$1,044
2032	\$43	\$120	\$506	\$162	\$268	\$1,099
2033	\$45	\$127	\$532	\$170	\$282	\$1,157
2034	\$48	\$135	\$559	\$179	\$297	\$1,218

Sample B increases total revenue substantially while holding steady in real terms due to inflation indexing.



Sample B: Driver profiles and impacts

Driver A



Annual Income: \$50K



Primary Vehicle: 2015 Toyota Tundra



16

MPG

10k

Annual miles
traveled

Vehicle Use Pattern:

Frequent short trips, suburban driving

18

Pkgs
Delivered
per year

1-2

Pkgs
per Month

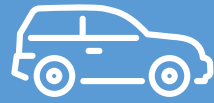
Driver B



Annual Income: \$62K (median
household income in NV)



Primary Vehicle: 2017 Ford Explorer



21.5

MPG

11k

Annual miles
traveled

Vehicle Use Pattern:

Daily commute

36

Pkgs
Delivered
per year

2-4

Pkgs
per Month

Driver C



Annual Income: \$125K



Primary Vehicle: 2021 Tesla Model 3



141

MPGe

12k

Annual miles
traveled

Vehicle Use Pattern:

Daily commute, urban use, weekend rural use

52

Pkgs
Delivered
per year

1

Time
per Week

Sample B: Driver profiles and impacts

Driver A

Annual Income: \$50k
Annual Miles: 10k



Driver B

Annual Income: \$62k
Annual Miles: 11k

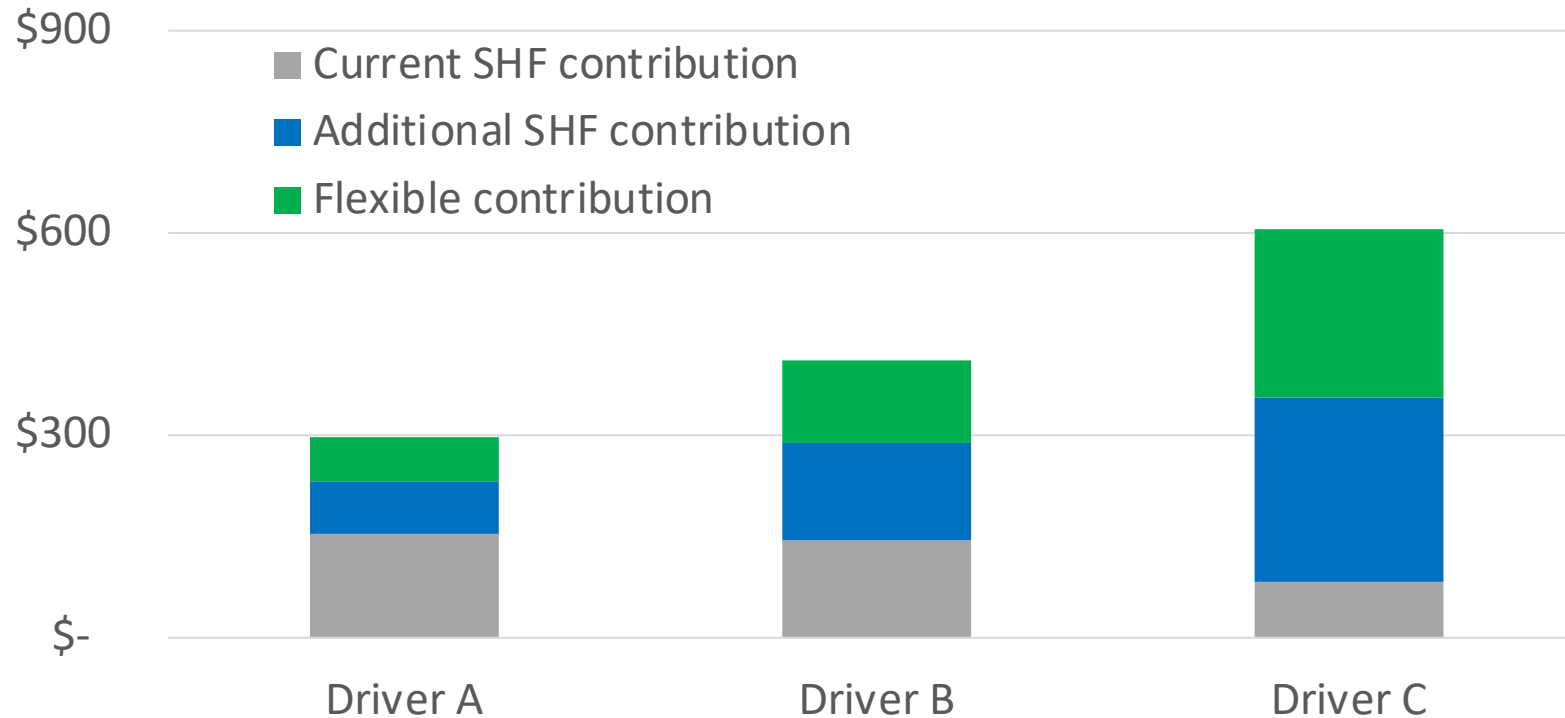


Driver C

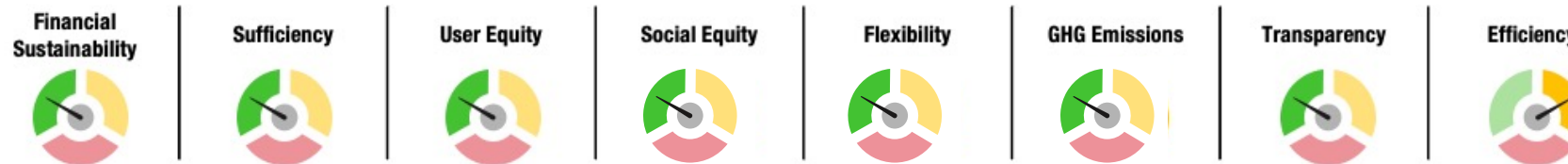
Annual Income: \$125k
Annual Miles: 12k



Individual Impacts in 2032



Sample B: Qualitative assessment (performance relative to Guiding Principles)



Financial Sustainability and Sufficiency

Sample B provides both sustainable and sufficient revenues over the 20-year horizon, as it indexes the flat-rate taxes (fuel, delivery fee, and registration fee), and in the longer term (2030) transitions away from the gas tax and phases in a mileage-based charge.

User equity

Sample B relies less on the fuel tax and over time, relies more on a mileage-based charge so that all vehicles are paying the same amount per mile (absent specific discounts for policy-based reasons).

Social equity

A tiered increase in the basic registration fee where newer vehicles pay more than older vehicles is likely to help lower-income households. Additional relief comes from transitioning away from the gas tax, where older, less fuel-efficient vehicles pay significantly more than newer, high-MPG or electric vehicles.

Flexibility

Sample B provides substantial revenue from flexible funding sources.

GHG emissions

Increasing the motor fuels tax (and indexing it) supports GHG reduction goals in the near and mid-terms. Depending on rate decisions, the mileage-based charges can also support GHG reduction goals.

Transparency

Although fuel tax increases are not transparent at time of purchase, vehicle value-based taxes (GST), delivery fees, and mileage-based charges offer an opportunity for consumers to see detailed receipts of their costs.

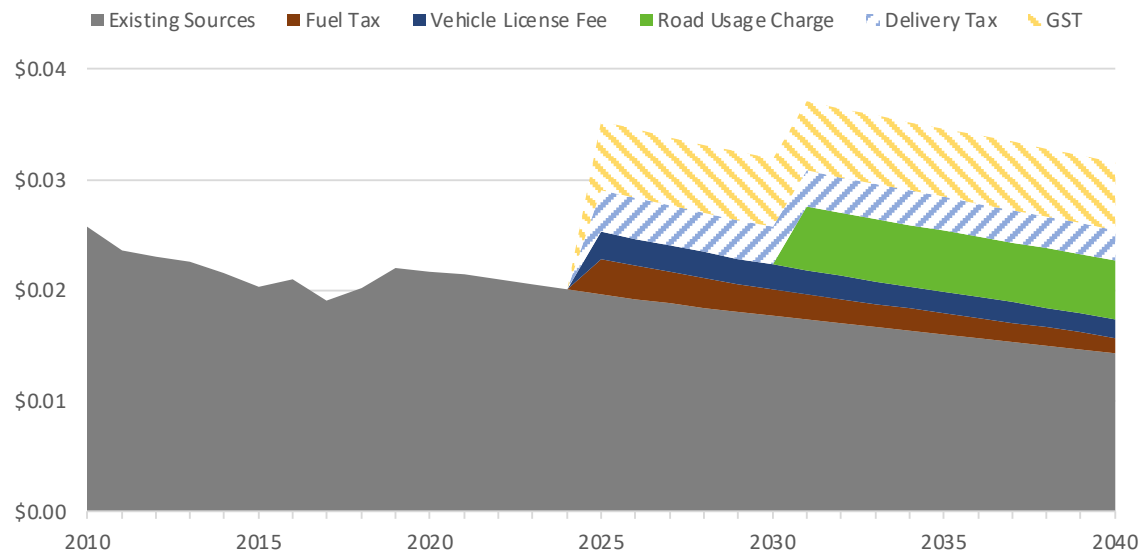
Efficiency

The benefits of tiered rates and reduced reliance on fuel taxes is traded off with additional costs of collecting the new taxes and fees – tiered rate vehicle registration fee, delivery fee, and in the mid- and longer-term, a mileage-based charge, which will require new revenue collection processes and IT capabilities.

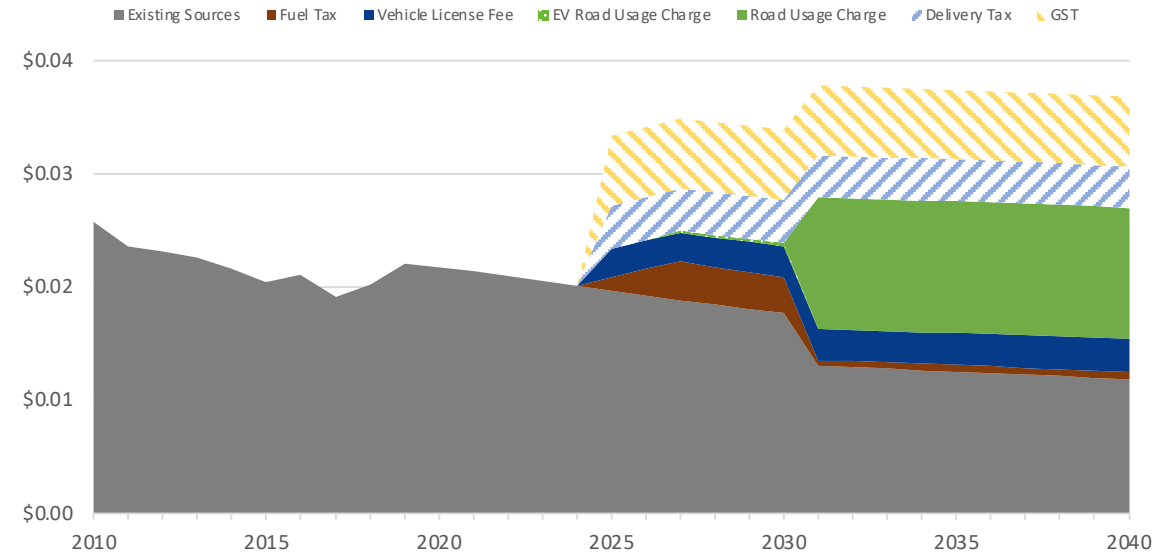
Samples A and B revenue per mile driven, adjusted for inflation, are compared against the base case (current revenue sources).

The charts below portray the revenue generated by the two sample packages on a per-mile basis, adjusted for inflation. In Sample A the revenues from sources in current policy remain unchanged, while increases in rates and new revenue sources add to the existing available funds. In Sample B, the gasoline tax is eliminated (or refunded) from the revenue sources in current policy in 2031 in favor of distance charging for light-duty vehicles. Additional revenue from new mechanisms and rate increases is shown on top of existing mechanisms.

Sample A



Sample B



Approaches for improving performance:

Gas and diesel tax increase	Delivery fee on tangible goods	Increase vehicle value tax (GST)	Increase basic vehicle registration fee	Distance-based charge for light duty vehicles (RUC)	Inflation index on gas and diesel tax
Flexibility: allow \$ to be used for sidewalk and pavement improvements	Efficiency: move tax collection to retail instead of shipper (same as for sales tax)	GHG emissions: offer rebates or discounts for zero-emission vehicles.	Social equity: graduated rates so older vehicles pay less	Social equity: consider offering lifeline rates, or periodic payment methods	(See Column 1, gas and diesel tax, for possible approaches)
Transparency: post fuel tax rates on pumps and receipts	Transparency: require delivery fee to be disclosed on receipt	User equity: add usage-based factors (e.g., mileage)	User equity: include a weight component so heavier vehicles pay more	GHG emissions: offer limited-time rate discounts based on a vehicle's emissions.	
GHG emissions: high prices at the pump (\$1 or more) are required to reduce consumption.				Efficiency: design and test a low-tech, lower-cost method of mileage reporting	

Questions/issues that must be addressed (starter list):

Gas and diesel tax increase	Delivery fee on tangible goods	Increase vehicle value tax (GST)	Increase basic vehicle registration fee	Distance-based charge for light duty vehicles (RUC)	Inflation index on gas and diesel tax
How can it be made more financially sustainable? Should it?	What items are subject to the fee?	Can GST be dedicated to transportation purposes?	Should all vehicles pay the same amount?	How will mileage data be collected reliably and accurately?	(Indexing fuel tax has same drawbacks as gas tax – see column 1)
What is best timing for rate increases given current gas prices?	Can/should fee be dedicated to transportation only?	How will the average consumer be affected?	How can impacts to lower income drivers be mitigated?	How will privacy be protected?	Will rate caps or periodic renewals be required?
How can non-gasoline/diesel vehicles pay for using roads?	How to ensure that producers/consumers pay the fee?	Can GST retain its flexible funding capabilities, consistent with the Const.?	What is the cumulative impact of vehicle-related tax and fee increases?	Will there be disproportionate impacts to rural communities?	How can this be implemented to “do no harm” to FRI counties?
How can the user-pays principle be preserved?				How can DMV be equipped for success in implementation?	
How to alleviate disparate impacts on low income?					

Lunch break

Identifying preferred revenue options and issues that must be addressed for each mechanism

AB 413 – Legislative direction for this study

“The Advisory Working Group shall study during the 2021-2022 interim:

- (a) The needs of all users of different modes of transportation, including bicyclists, pedestrians, drivers of motor vehicles and public transit users;
- (b) Social and user transportation equity;
- (c) The reduction of greenhouse gas emissions;
- (d) The sustainability of the State Highway Fund including, without limitation, an analysis of the Natural Resources Defense Council funding model presented to the Legislative Committee on Energy on August 24, 2020, and Utah’s Road Usage Charge Program; and
- (e) The role of land use and smart growth strategies in reducing transportation emissions and improving system efficiency and equity.”

AWG's transportation funding challenge (or charter, adopted August 2021)

- An examination of the financial sustainability of the **State Highway Fund** must be undertaken and the recommendations must be included in the final report due to the Legislature by December 31, 2022. This must include an assessment of at least **two alternative transportation funding approaches** that have been identified.
- **Consistent with AB 413**, new approaches to **multimodal** transportation funding **for all users** must take into account the need to improve **social equity, user equity**, and reduce **GHG emissions**. Finally, the role that **land use and smart growth** strategies can play must be considered.

Objectives for today's discussion

- **June 14 Meeting:** Review policy and revenue recommendations for final report
- Today:
 - Indicate **preferred mix of revenue mechanisms** for final consideration in June
 - For each revenue mechanism:
 - Offer suggestions to **optimize/ improve** each revenue option (e.g., timing)
 - Share outstanding **questions/ issues** to be addressed

Based on AWG discussion at the March 2022 meeting, **six revenue mechanisms** had strong support to move forward for more detailed analysis.

Near-term remaining options to research

Consensus or strong support for:

- Increased fuel excise tax rate
- Increased value-based GST (*F*)
- Parcel delivery fee (*F*)
- Increased base-vehicle licensing fee
- Inflation indexing on per-gallon excise fuel tax

Mid-or-longer term remaining options to research

Consensus or strong support for:

- Light vehicle RUC (*various forms*)
- Increased value-based GST (*F*)
- Parcel delivery fee (*F*)
- Increased base vehicle licensing fee
- Inflation index on per-gallon excise fuel tax

F = flexible funding source

Approaches for improving performance:

Gas and diesel tax increase	Delivery fee on tangible goods	Increase vehicle value tax (GST)	Increase basic vehicle registration fee	Distance-based charge for light duty vehicles (RUC)	Inflation index on gas and diesel tax
Flexibility: allow \$ to be used for sidewalk and pavement improvements	Efficiency: move tax collection to retail instead of shipper (same as for sales tax)	GHG emissions: offer rebates or discounts for zero-emission vehicles.	Social equity: graduated rates so older vehicles pay less	Social equity: consider offering lifeline rates, or periodic payment methods	(See Column 1, gas and diesel tax, for possible approaches)
Transparency: post fuel tax rates on pumps and receipts	Transparency: require delivery fee to be disclosed on receipt	User equity: add usage-based factors (e.g., mileage)	User equity: include a weight component so heavier vehicles pay more	GHG emissions: offer limited-time rate discounts based on a vehicle's emissions.	
GHG emissions: high prices at the pump (\$1 or more) are required to reduce consumption.				Efficiency: design and test a low-tech, lower-cost method of mileage reporting	

Questions/issues that must be addressed (starter list):

Gas and diesel tax increase	Delivery fee on tangible goods	Increase vehicle value tax (GST)	Increase basic vehicle registration fee	Distance-based charge for light duty vehicles (RUC)	Inflation index on gas and diesel tax
How can it be made more financially sustainable? Should it?	What items are subject to the fee?	Can GST be dedicated to transportation purposes?	Should all vehicles pay the same amount?	How will mileage data be collected reliably and accurately?	(Indexing fuel tax has same drawbacks as gas tax – see column 1)
What is best timing for rate increases given current gas prices?	Can/should fee be dedicated to transportation only?	How will the average consumer be affected?	How can impacts to lower income drivers be mitigated?	How will privacy be protected?	Will rate caps or periodic renewals be required?
How can non-gasoline/diesel vehicles pay for using roads?	How to ensure that producers/consumers pay the fee?	Can GST retain its flexible funding capabilities, consistent with the Const.?	What is the cumulative impact of vehicle-related tax and fee increases?	Will there be disproportionate impacts to rural communities?	How can this be implemented to “do no harm” to FRI counties?
How can the user-pays principle be preserved?				How can DMV be equipped for success in implementation?	
How to alleviate disparate impacts on low income?					

Gas and diesel tax increase

Approaches for improving performance	Questions/issues that must be addressed
Flexibility: allow \$ to be used for sidewalk and pavement improvements	How can it be made more financially sustainable? Should it?
Transparency: post fuel tax rates on pumps and receipts	What is best timing for rate increases given current gas prices?
GHG emissions: high prices at the pump (\$1 or more) are required to reduce consumption.	How can non-gasoline/diesel vehicles pay for using roads?
	How can the user-pays principle be preserved?
	How to alleviate disparate impacts on low income?

Delivery fee on tangible goods

Approaches for improving performance	Questions/issues that must be addressed
Efficiency: move tax collection to retail instead of shipper (same as for sales tax)	What items are subject to the fee?
Transparency: require delivery fee to be disclosed on receipt	Can/should fee be dedicated to transportation only?
	How to ensure that producers/consumers pay the fee?

Increase vehicle value tax (GST)

Approaches for improving performance	Questions/issues that must be addressed
GHG emissions: offer rebates or discounts for zero-emission vehicles.	Can GST be dedicated to transportation purposes?
User equity: add usage-based factors (e.g., mileage)	How will the average consumer be affected?
	Can GST retain its flexible funding capabilities, consistent with the Constitution?

Short break

***Continued...* Identifying preferred revenue options and issues that must be addressed for each mechanism**

Increase basic vehicle registration fee

Approaches for improving performance	Questions/issues that must be addressed
Social equity: graduated rates so older vehicles pay less	Should all vehicles pay the same amount?
User equity: include a weight component so heavier vehicles pay more	How can impacts to lower income drivers be mitigated?
	What is the cumulative impact of vehicle-related tax and fee increases?

Distance-based charge for light duty vehicles (RUC)

Approaches for improving performance	Questions/issues that must be addressed
Social equity: consider offering lifeline rates, or periodic payment methods	How will mileage data be collected reliably and accurately?
GHG emissions: offer limited-time rate discounts based on a vehicle's emissions.	How will privacy be protected?
Efficiency: design and test a low-tech, lower-cost method of mileage reporting	Will there be disproportionate impacts to rural communities?
	How can DMV be equipped for success in implementation?

Inflation index on gas and diesel tax

Approaches for improving performance	Questions/issues that must be addressed
Flexibility: allow \$ to be used for sidewalk and pavement improvements	(Indexing fuel tax has same drawbacks as gas tax – see column 1)
Transparency: post fuel tax rates on pumps and receipts	Will rate caps or periodic renewals be required?
GHG emissions: high prices at the pump (\$1 or more) are required to reduce consumption.	How can this be implemented to “do no harm” to FRI counties?

Role of Land Use in Creating a Sustainable Transportation System

AB 413 requires the AWG to study “[t]he role of land use and smart growth strategies in reducing transportation emissions and improving system efficiency and equity.”

A

Which land-use reforms should Nevada consider?

B

What land-use reform efforts are going on in other states?

C

What would a land-use commission study and who would serve on it?

Themes of Effective Land-Use Policies and Reform Efforts

- Developing stronger land-use planning regimes **involves participation from many diverse stakeholders** and constituency groups—from transportation to economic development to environmental to housing, and more, in order to achieve broader policy goals.
- A land-use reform effort should create a **strong, compelling and comprehensive vision** for the community (state) that involves strong stakeholder and public participation.
- Effective land-use policy is **comprehensive in scope**, does not involve individual or "one-off" policies, and is generally more effective when administered by larger governmental bodies
- **Integration, coordination and collaboration of plans is key.** Otherwise, entities are creating their plans and policies in isolation.
- Effective and sustainable land-use regulation involves **strong, measurable implementation guidelines, metrics, and evaluation methods.**
- Financial or other incentives may be helpful, even needed, for local governments to implement policy prescribed at the state level.
- Regular evaluation of **effectiveness and interplay of state and local policy** is important to making progress on key policy goals.
- **Continual education** of community members and policymakers about the importance of sustainable land-use planning is important.
- Entities (commissions, councils, working groups) to specifically study a region's land-use patterns and policies have been helpful in enacting land-use policy reforms.



Which policy reforms might Nevada consider?

- ☐ Permitting accessory dwelling units (ADUs)
- ☐ Developing, expanding and incentivizing mixed-use zoning
- ☐ Reducing or eliminating minimum lot sizes
- ☐ Allowing high-density development in most zones
- ☐ Removing density limitations in some zones
- ☐ Expanding geographic availability of transit
- ☐ Expanding frequency and regularity of transit
- ☐ Reducing or eliminating parking minimums
- ☐ Incentives for housing, mixed use, active ground floors, structured parking
- ☐ Evaluating design standards
- ☐ Evaluating zoning heights
- ☐ Developing, restoring or enhancing historic districts
- ☐ Evaluating the effectiveness of rules regarding nonconforming development
- ☐ Increasing the availability of affordable housing
- ☐ Imposing impact fees to offset infrastructure cost or incentivize alternative growth
- ☐ Evaluating how land use and growth strategies have impacted underserved communities
- ☐ Assessing local plans' impact on state infrastructure assets
- ☐ Evaluating the duties, responsibilities, membership and levels of coordination of existing boards, councils, and commissions, such as SLUPAC (State Land Use Planning Advisory Council)



Land-use commissions in other states: **Maine**

Maine formed a special legislative commission "To Increase Housing Opportunities in Maine by Studying Zoning and Land Use Restrictions." The Commission's directives were detailed and included a general purpose and specific duties. The Commission reported out [its findings](#) in December 2021.

These findings resulted in legislation, which passed out of committee in February 2022 with bipartisan support. While the legislation focuses on expanding housing opportunities, many of the objectives around efficient land use are similar to the AWG's charge around improving the transportation system and reducing emissions.

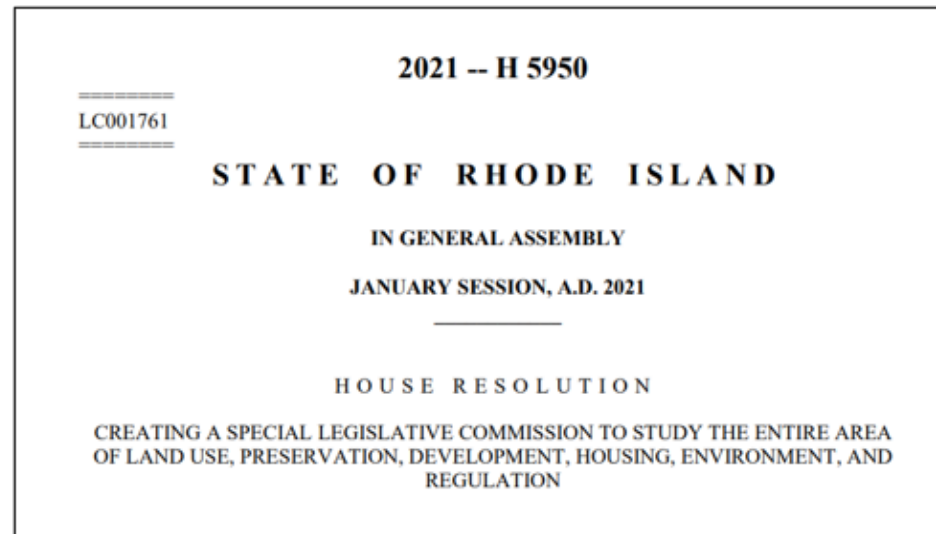
1. Prohibits municipalities from restricting the construction or development of housing in certain cases
2. Establishes a board responsible for reviewing municipal housing development permit decisions
3. Prohibits municipalities from adopting any ordinance that caps the number of building or development permits each year for any kind of residential dwellings
4. Provides for technical assistance, grants and incentive programs to municipalities for the purposes of developing and implementing zoning and land use ordinances
5. Requires affordable housing developments to be built at certain densities
6. Increases the number of dwelling units, including ADUs, permitted to be built on certain property



Land-use commissions in other states: **Rhode Island**

The Rhode Island House of Representatives formed a special House commission to "undertake a comprehensive study and broad-based review . . . of land use, preservation, development, housing, environment and regulation . . . " to provide recommendations that will allow the state to ensure sustainable growth in the future.

The Commission must report its findings and recommendations by April 30, 2022. Follow the Commission's work [here](#).



Potential areas of study for a land-use commission:

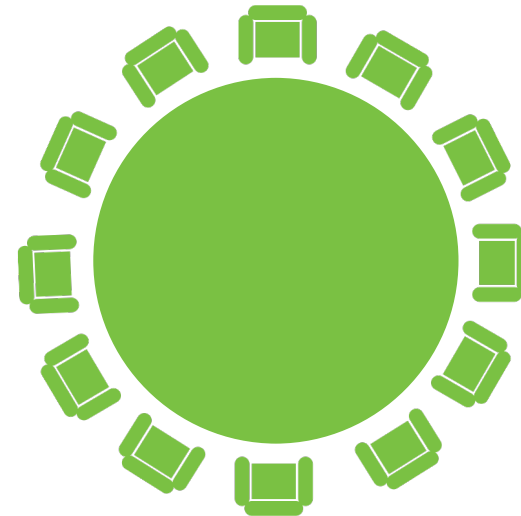
- The purpose of any commission should be to undertake a comprehensive study and a broad review of land use policy in Nevada.
- Identifying certain policy areas for review may be helpful:
 - Land preservation, production, and development;
 - Availability and affordability of housing;
 - Environmental regulations;
 - Tax policy;
 - Existing and future transportation needs;
 - Energy and water policy;
 - Agriculture;
 - Tourism;
 - Economic development goals;
 - Various other state laws and regulations, including the role each level of government plays in land use planning
- A commission may be broad in scope or include specific goals, such as reducing vehicle miles traveled, preserving open space, or creating affordable housing options near service centers.
- A commission should provide recommendations that would enable the state to promote land use that allows for sustainable and equitable economic growth.



Potential membership of a land-use commission

Participation can vary by state and specific purpose; however, representation generally includes:

- Legislators, Governor's Office
- State housing authority and/or housing board commissioners
- State environmental agency
- State business agency
- Statewide planner, regional planning organization, municipal planners, members of a city zoning board
- Representative from real estate/residential development industry
- Representative from the agricultural industry
- Representative from the building trades industries
- Statewide transportation group/transit provider
- Environmental groups
- Organizations promoting civil rights, racial justice or racial equity
- Individuals or organizations who understand issues related to accessibility and equity of land-use regulations and procedures for vulnerable, historically disenfranchised populations
- Attorney with land-use expertise
- Statewide advocate for affordable housing
- Statewide advocate for smart growth policies and projects
- Organization that advocates for low-income or middle-income renters or homeowners



Public comment period

Adjourned.

See you June 14, 2022!

Backup slides – only if needed.

Guiding Principles

Guiding Principles for Future Transportation Revenue Sources

Alone or in combination, transportation revenue sources should be capable of:



Financial Sustainability: Yielding sufficient revenue that correlates with ongoing maintenance needs; and demand for future transportation needs, regardless of changes in population, vehicle technologies, ownership, travel patterns, fuel sources, or consumer spending.



Sufficiency: Generating sufficient revenue over targeted investment timeframes for existing and future transportation infrastructure needs.



User Equity: Recovering a proportionate share of the costs from those who use the transportation network.



Social Equity: Improving the distributional impact on historically underserved communities and low-income households.



Flexibility: Funding a wide range of transportation-related projects, programs, or priorities across various agencies to meet the needs of system users across all modes.



Greenhouse Gas Emissions: Aligning with state transportation GHG reduction goals.



Transparency/ Efficiency and Ease of Compliance: Simple to explain, with awareness of how funds are used, cost-effective, and readily administered at statewide and local levels.

Methodology for revenue option evaluation against the Guiding Principles

Financial Sustainability. To measure financial sustainability, we compare expected future changes in one aggregate measure of transportation demand (vehicle miles traveled, or VMT) against the expected revenue generated by each mechanism. To compare VMT with revenue, we index the value of both to 100 in the year 2021, then compare the trend through 2040. Total VMT is expected to grow statewide by 50% over that time frame, to an indexed value of 180. We compare the expected growth of each revenue mechanism to this VMT trend. Revenue mechanisms that match or exceed the pace of VMT growth are regarded as sustainable.

Sufficiency. For sufficiency, we offer two measures: (1) the tax rate required to generate \$100 million in 2021 and (2) the net present value of the total revenue generated at that tax rate through 2040, using a discount rate of 4%. The tax rate offers an indication of reasonability. For example, a 9.4 cent per gallon fuel excise tax generates \$100 million in 2021. Subjectively, 9.4 cents is a “reasonable” proportion of the total cost of fuel (less than 5%). By contrast, a tax of \$50 per kWh of EV battery capacity would generate \$100 million in 2021, which equals approximately \$4,000 for a typical EV, or between 5-10% of the value of the vehicle each year. Subjectively this rate is not “reasonable,” so the tax is not regarded as capable of the same level of sufficiency as the fuel tax.

User Equity. For this principle, we consider the degree to which each revenue mechanism recovers revenue from users of the transportation system and whether that recovery is equitable.

Social Equity. For this principle, we consider the degree to which each revenue mechanism impacts low-income households and/or the relative impacts of the mechanism by household income. Mechanisms which have a high impact or a high relative impact on low-income households score poorly.

Flexibility. This measure is binary. Either a revenue mechanism is subject to the state constitutional restrictions for highway spending, or it is not. Nevertheless, there are two hypothetical mechanisms for which it is unclear whether the constitutional restriction applies.

GHG Emissions. For this measure, we consider the degree to which a revenue mechanism is capable of aligning with or supporting Nevada’s objective to reduce greenhouse gas emissions. For example, a tax on EV batteries could discourage adoption of such vehicles and be out of alignment with GHG reduction goals.

Transparency. This principle relates to the ability of taxpayers to see the revenue mechanism. We also assess the relative ability of end customers to understand the mechanisms and its personal impact on them.

Efficiency. Short of calculating the precise cost of collection of any mechanism, the evaluation offers relative assessments of the complexity of each mechanism. Existing efficient mechanisms such as excise fuel taxes score well.

Problem Statement(s): breaking it down into bite-sized pieces

1. Current statewide transportation funding methods...

- a) ...do not provide adequate funding to meet NDOT's *existing and near-term* needs

Solution: increase SHF funding *levels now*

- b) ...lead to declining revenue and a growing gap between resources and needs for the State Highway Fund (SHF)

Solution: adopt new SHF funding mechanisms for the future

- c) ...do not provide adequate support for state investment in *non-highway modes*

Solution: increase funding levels and/or adopt new funding mechanisms available for *non-highway transportation purposes*

2. Current statewide policy...

- a) ...does not address opportunities for land use interventions at the *state level* that could reduce long-term transportation needs and address GHG emissions.
- b) ...does not provide sufficient tools for land use interventions at the *local level* that could reduce long-term transportation needs and address GHG emissions.

Solution: identify possible *new approaches to land use management*

Issue #1: Mechanisms to stabilize/increase SHF funding levels in the near term (over the next 6 years)

Question 1: What are the most appropriate mechanisms to address this issue?

Question 2: How should these mechanisms be balanced?

Question 3: Considering the mechanisms and desired balance, what rates generate revenue levels to address near-term SHF needs?

Issue #2: Mechanisms to create sustainable SHF funding in the longer-term (beyond 6 years)

Question 1: What are the most appropriate mechanisms to address this issue?

Question 2: How should these mechanisms be balanced?

Question 3: Considering the mechanisms and desired balance, what rates generate revenue levels to address long-term SHF needs?

Issue #3: Mechanisms to fund non-highway needs- now and in the future

Question 1: What are the most appropriate mechanisms to address this issue?

Question 2: How should these mechanisms be balanced?

Question 3: Considering the mechanisms and desired balance, what rates generate revenue levels to address non-highway needs?

Issue #4: Utilize land use to influence future transportation needs

Question 1: How should statewide land use issues be addressed?

Question 2: What are the most appropriate land use policies to consider at the state level?

Question 3: What local land use policymaking tools should the state consider?

State transportation funding needs estimates

Purpose: provide an estimate of Nevada's unfunded transportation needs at a high-level over the next ten years. For the AWG, this information can help members understand the order-of-magnitude of the funding needs so that appropriate revenue mechanisms can be recommended. The estimate is not intended to be used for appropriation-level decision-making on specific projects, programs, or funding priorities.



Approach: evaluated available transportation assets data, reviewed adopted budgets and long-range plans, and solicited stakeholder input. Examples of sources include NDOT pavement management system data, Statewide Transportation Improvement Program (STIP), the One-Nevada Long-Range Transportation Plan update, and MPO long-range plans. Estimates do not include project or program costs that are assumed to be funded within current revenues.

Not included: local roadway operations and expansion, aviation, railroads, and other transportation technologies. The estimate also does not include NDOT facility needs (such as rest areas), equipment, materials, appropriate staffing levels and labor rates required to deliver NDOT projects and services in the future, nor inflation.

Stakeholder input: meetings were held with all four MPO's in Nevada (RTC Washoe, RTC Southern Nevada, Tahoe Regional Planning Agency, and the Carson Area MPO). **Note:** *RTC Southern Nevada is currently analyzing the funding needs within its jurisdiction – the results of their work will best represent unfunded transportation needs in that region.*

Nevada 10-year statewide transportation funding needs estimates

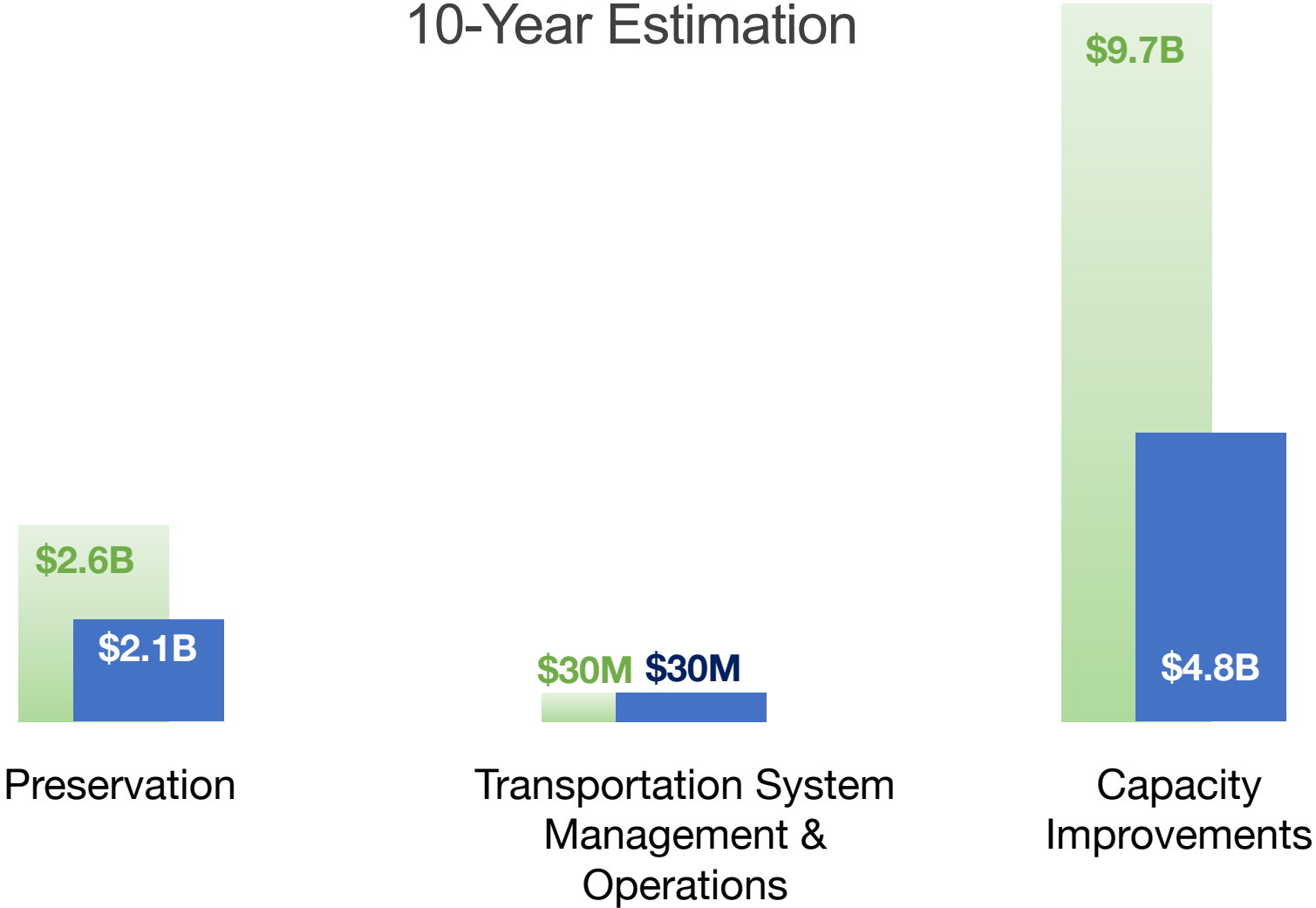
Category	Low Estimate	High Estimate
Roadway and Bridge Preservation	\$2,064,000,000	\$2,599,000,000
Transportation system management and operations (TSMO)	\$30,000,000	\$30,000,000
Roadway capacity	\$4,782,000,000	\$9,688,000,000
Rural transit	\$2,000,000	\$2,000,000
Urban transit	\$6,500,000,000	\$13,000,000,000
Bicycle and pedestrian	\$452,000,000	\$904,000,000
Approximate IIJA funding increase if continued for 10 years	\$2,000,000,000	\$2,000,000,000
Total 10-year need *accounting for IIJA funding increase	\$11,830,000,000	\$24,223,000,000
Total 10-year need *without urban transit; and after accounting for IIJA increase	\$5,330,000,000	\$11,223,000,000
Average annual need *without urban transit; and after accounting for IIJA increase	\$533,000,000	\$1,122,300,000

State highway-related funding needs

10-Year Estimation

High
Estimate

Low
Estimate

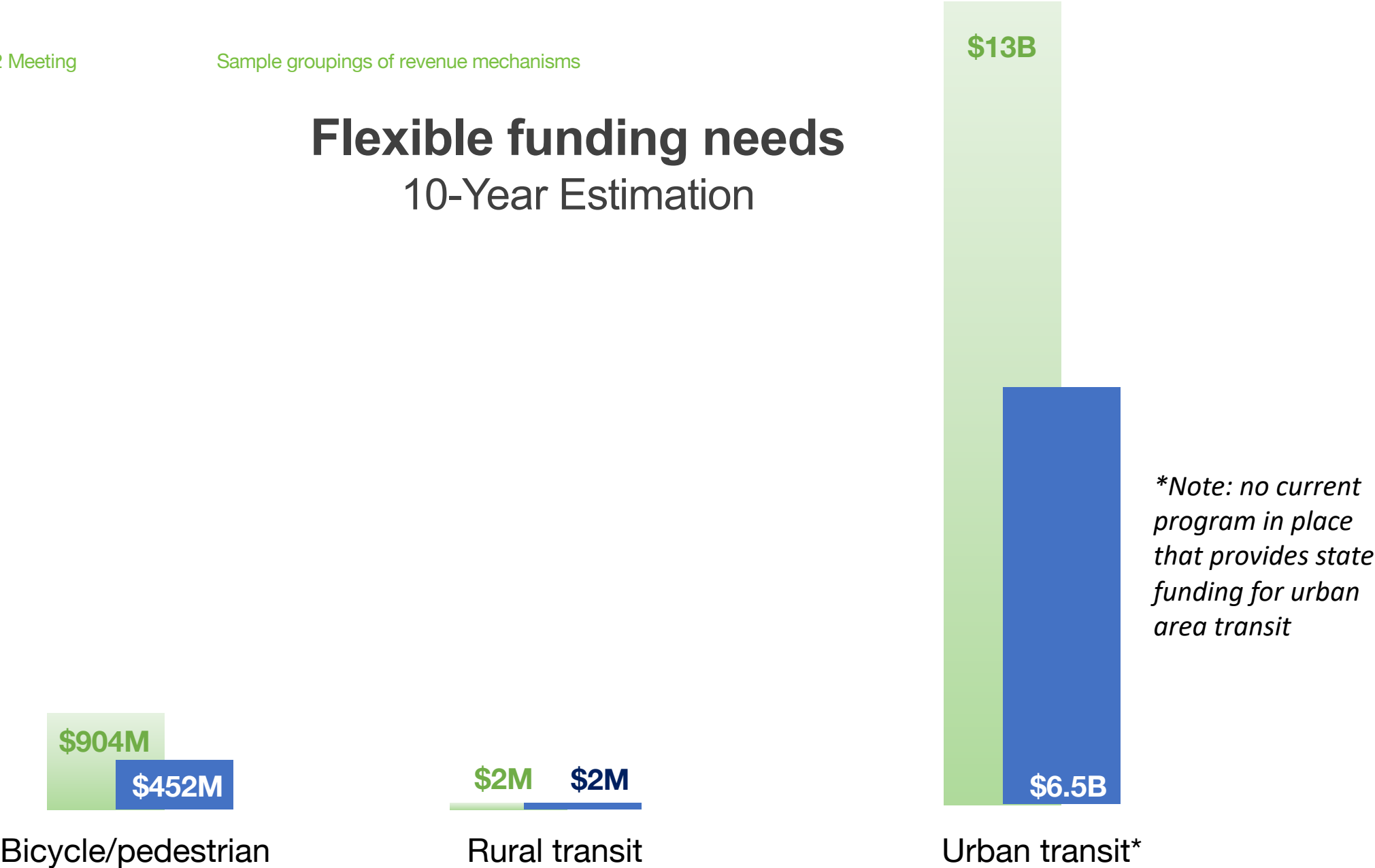


Flexible funding needs

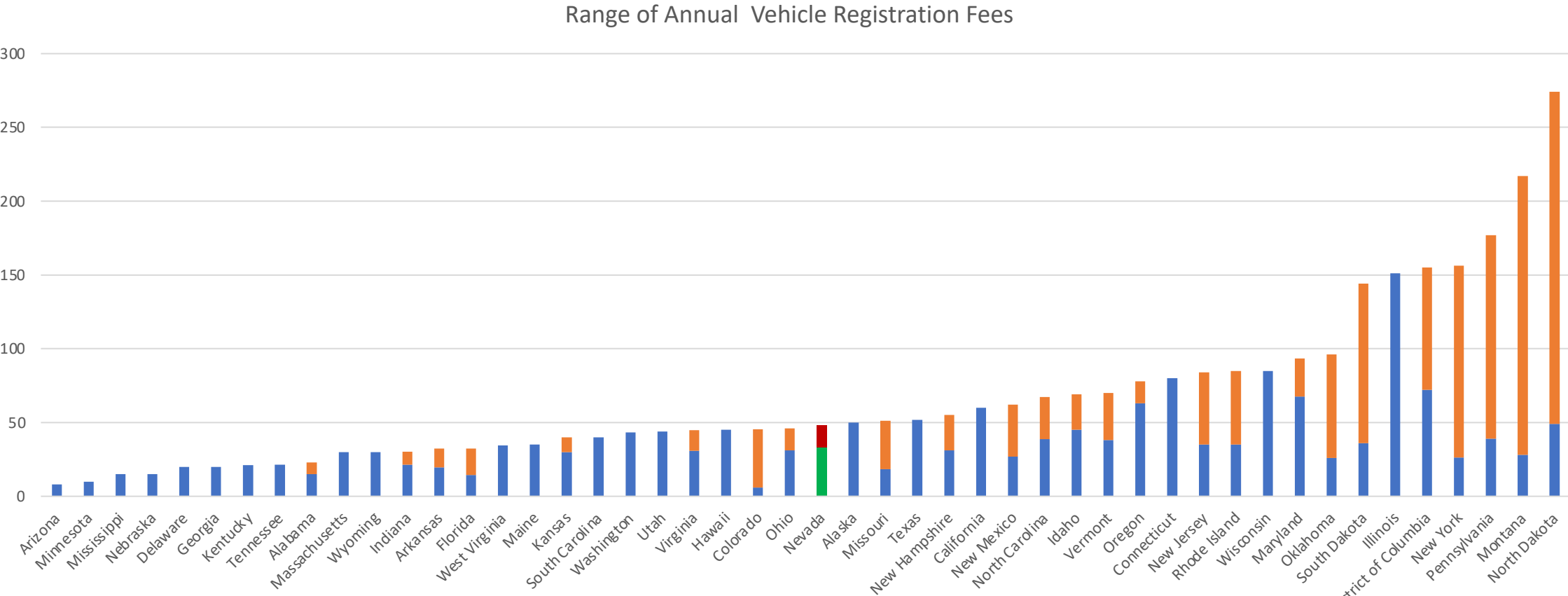
10-Year Estimation

High
Estimate

Low
Estimate



Annual basic vehicle registration fees range from <\$10 to over \$250, but the basic charge varies in many states by weight, age, or both



States with variable basic registration fees are represented by two colors indicating the range (minimum and maximum) for light-duty vehicles, based on vehicle age, weight, or both. States with a flat basic registration fee are represented by one color. Many states have additional taxes collected at registration based on age, weight, or value.

Status of all revenue options after March 2022 AWG meeting:

Under consideration for statewide revenue

<ul style="list-style-type: none"> ■ Increase rate of flat per-gallon excise tax 	<ul style="list-style-type: none"> ■ Increase the basic vehicle registration fee
<ul style="list-style-type: none"> ■ Add inflation index to flat per-gallon excise tax rate 	<ul style="list-style-type: none"> ■ Add fee based on vehicle weight
<ul style="list-style-type: none"> ■ Add fuel efficiency index to flat per-gallon excise tax 	<ul style="list-style-type: none"> ■ Add fee based on vehicle fuel economy rating
<ul style="list-style-type: none"> ■ Add sales tax based on price of fuel 	<ul style="list-style-type: none"> ■ Add fee based on vehicle age
<ul style="list-style-type: none"> ■ Add variable-rate excise tax based on price of fuel 	<ul style="list-style-type: none"> ■ Distance-based charge for light-duty vehicles
<ul style="list-style-type: none"> ■ <i>Carbon tax [R]</i> 	<ul style="list-style-type: none"> ■ Parcel delivery fee
<ul style="list-style-type: none"> ■ Increase value-based rate of governmental services tax (GST) 	

Better suited as local revenue source

<ul style="list-style-type: none"> ■ <i>Street utility fee [R]</i>
<ul style="list-style-type: none"> ■ Cordon charge in urbanized areas
<ul style="list-style-type: none"> ■ Ride-share surcharges+
<ul style="list-style-type: none"> ■ <i>Land use impact fees+ [R]</i>
<h3>In reserve (for now)</h3>
<ul style="list-style-type: none"> ■ Ride-share surcharges+
<ul style="list-style-type: none"> ■ Add a tax on tires
<ul style="list-style-type: none"> ■ Add fee based on vehicle engine type
<ul style="list-style-type: none"> ■ <i>Land use impact fees+ [R]</i>

Very little support

<ul style="list-style-type: none"> ■ Weight-distance-based charged for medium- and heavy-duty vehicles
<ul style="list-style-type: none"> ■ Taxes on electricity consumed by electric vehicles
<ul style="list-style-type: none"> ■ Add a tax on EV batteries
<h3>Early elimination</h3>
<ul style="list-style-type: none"> ■ Payroll tax
<ul style="list-style-type: none"> Income tax [n/a]
<ul style="list-style-type: none"> General fund transfers [n/a]
<ul style="list-style-type: none"> ■ Value added tax on goods movement

Key:

+ appears in two categories

● ● ● ● = Guiding Principles composite rating.

[R] = recommended for additional research

Status of all revenue options after March 2022 AWG meeting:

Under consideration for statewide revenue

■ Increase rate of flat per-gallon excise tax	■ Increase the basic vehicle license fee
■ Add inflation index to flat per-gallon excise tax rate	■ Add fee based on vehicle weight
■ Add fuel efficiency index to flat per-gallon excise tax	■ Add fee based on vehicle fuel economy rating
■ Add sales tax based on price of fuel	■ Add fee based on vehicle age
■ Add variable-rate excise tax based on price of fuel	■ Distance-based charge for light-duty vehicles
■ Carbon tax [R]	■ Parcel delivery fee
■ Increase value-based rate of governmental services tax (GST)	

Better suited as local revenue source

■ <i>Street utility fee [R]</i>
■ Cordon charge in urbanized areas
■ Ride-share surcharges+
■ <i>Land use impact fees+ [R]</i>

In reserve (for now)

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■ Add a tax on tires
■ Add fee based on vehicle engine type
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■ Taxes on electricity consumed by electric vehicles
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Early elimination

■ Payroll tax
Income tax [n/a]
General fund transfers [n/a]
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