

# Fuel Efficient Vehicles and Transportation Funding

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Presentation to the Commonwealth of Virginia Joint  
Legislative Subcommittee Studying Long-Term  
Solutions for Transportation Funding Not Dependent  
upon Revenue from a Motor Vehicles Fuels Tax; Ways  
to Promote Use of Fuel Efficient Vehicles (SJR 385,  
2007)

December 13, 2007

# Outline

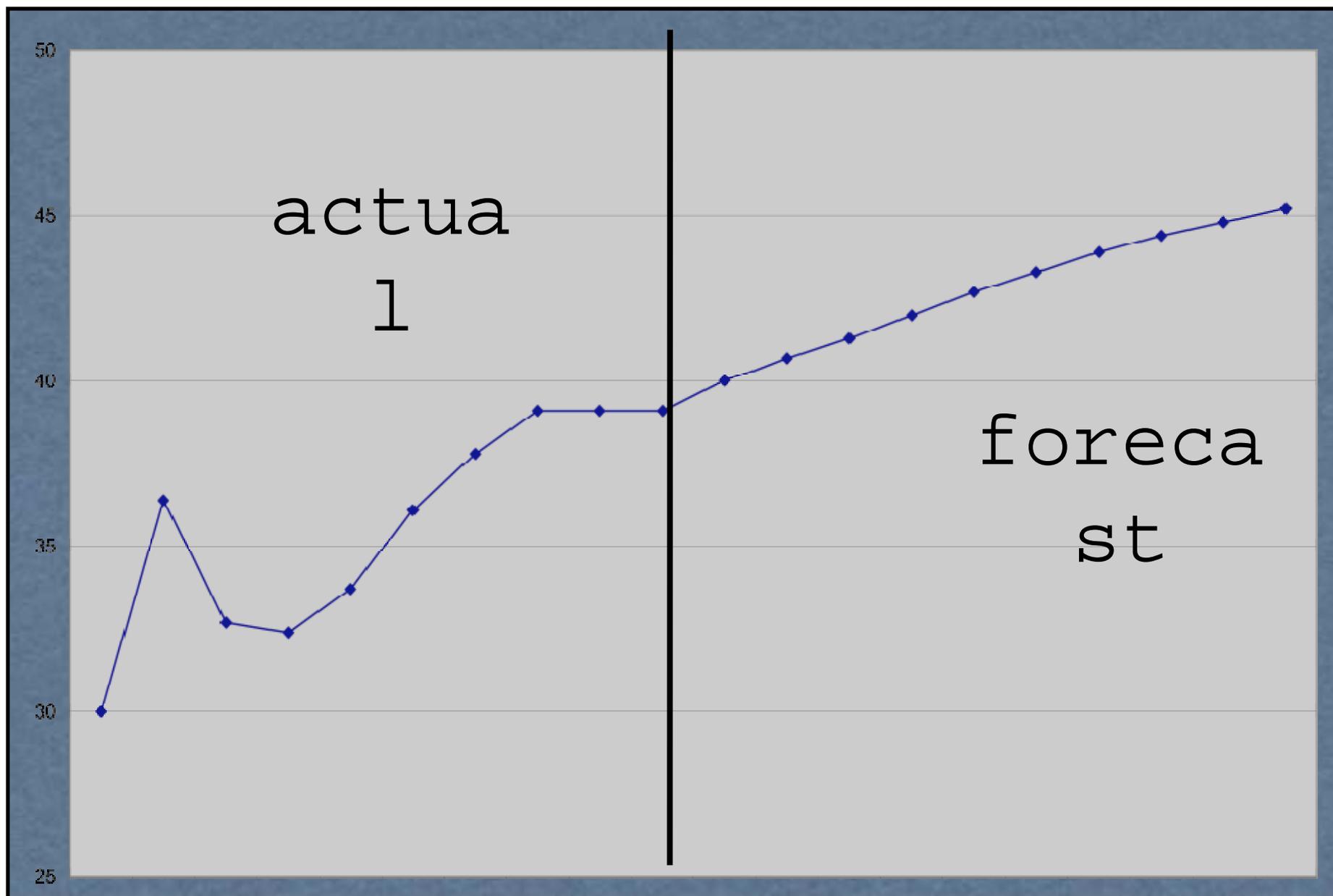
- Revenue forecasts
- Impact of hybrids
- Criteria for evaluating revenue proposals
- Scorecard

# Forecasts (U.S. Treasury)

- Gas tax main source of Highway Trust Fund revenue
- Slowing since 2003, trend expected to continue
- Average annual growth rate of total receipts:
  - 1998–2006: 3.7%
  - 2007–2016: 1.3%.

# Highway Trust Fund

## Total Receipts (\$bill)



## Revenue Growth

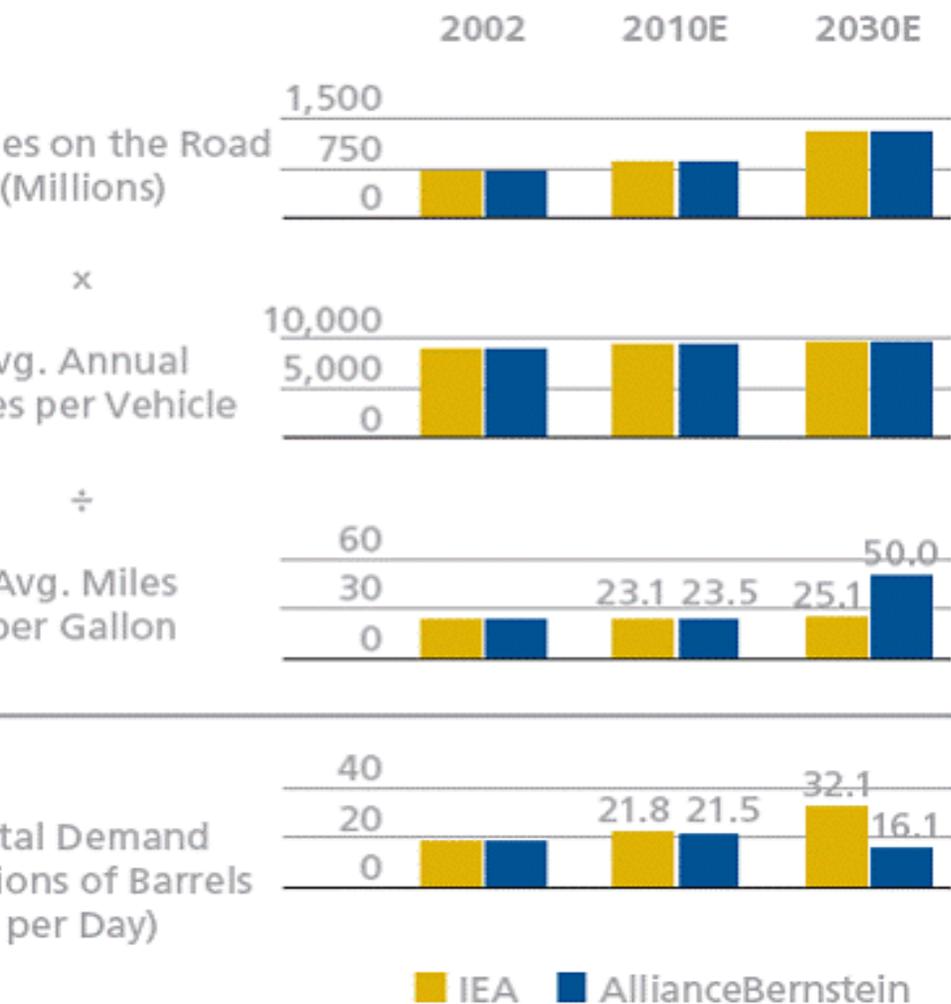
- Type of taxation (per gallon vs. ad valorem)
- Increased fuel efficiency
  - Technological progress
  - Policy initiatives: supportive legislation; regulations
- Rising gas prices
  - Behavioral response

# Hybrid Vehicle Impact

- Hybrid could DOUBLE fuel efficiency by 2030 (Bernstein)
- 70% of cars and small trucks could be hybrids by 2030
  - Average fuel efficiency rating of 62 miles per gallon
  - This would increase the global fleet fuel efficiency rating to at least 50 miles per gallon.
- Initial market dominated by heavy users (e.g., taxi)
  - Current payback for hybrid 2 years
  - Economies of scale will drive down cost

# Demand

should sharply reduce global oil demand



International Energy Agency (IEA), SMP, and AllianceBernstein

The Impact of Hybrids on Global Oil Demand

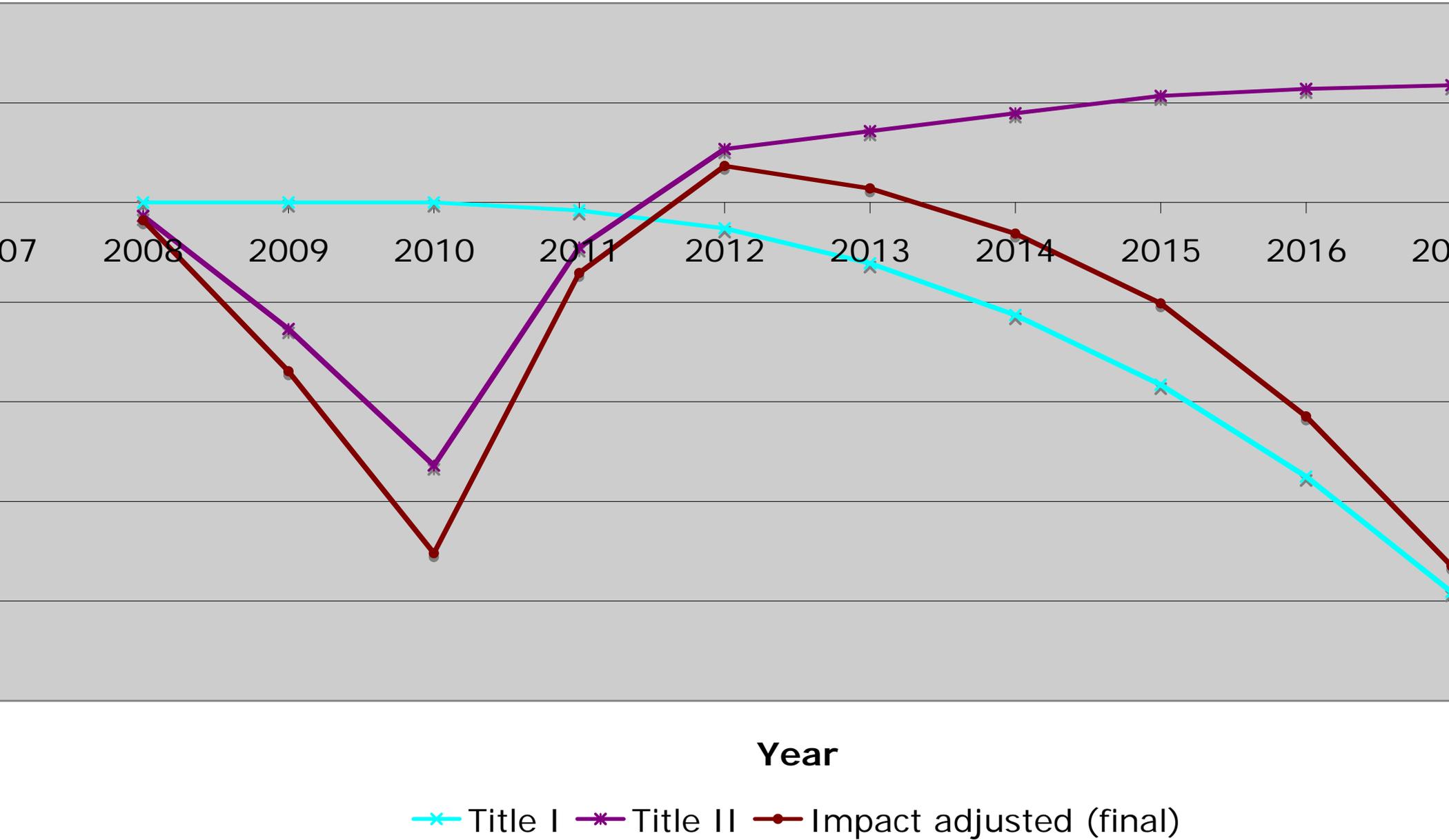
|                           | Year 2010 | Year 2030 | 20-Year Change | A G |
|---------------------------|-----------|-----------|----------------|-----|
| <b>IEA</b>                | 21.8      | 32.1      | 32%            | 2   |
| <b>Alliance Bernstein</b> | 21.5      | 16.1      | -34%           | -   |

Source: AllianceBernstein L.P.

# Current Energy Bill

|                                    |  |   |
|------------------------------------|--|---|
| Provision                          | H.R.6: The Energy Independence and Security Act (2007)   | S.1554: Energy Independence, Clean Air, and Climate Security Act (2007)   |
| Sponsor                            | Rep. Nick J. Rahall, II (WV-3)   | Sen. Susan M. Collins (ME)  |
| CAFE standards                     | Requires automakers to maintain a fleet average of 35 miles per gallon by year 2020 (40% increase)                                     | Gradual increase in CAFE standards to achieve 35 miles per gallon beginning in model year 2019 and 45 miles per gallon beginning in model year 2030   |
| Alternative Fuel Vehicle Promotion | Establishment of an alternative fuel vehicle action plan to ensure that by model 2015, alternative fuel sales will be no less than 50% | Modifies IRS tax code to:<br>1. Remove restrictions on the number of alternative motor vehicles that can be eligible for tax credit<br>2. Grant tax credits to alternative fuel vehicle manufactures<br>3. Grant tax credits for engine idle time reduction<br>4. Increase tax credits to |

# H.R. 6 CBO Scoring (Dec. 5, '07)



# Current System Scorecard

- Strengths

- Stability: Fuel tax revenue has traditionally been a stable source of highway financing as far back as the 1920's.
- Low Cost: On a per mile basis, the current fuel tax is cheaper compared to international standards. While this encourages wasteful driving, it does result in cheaper goods and better overall quality of life.
- Cost to collect: The cost of revenue collection is low.
- User-based: nexus between use of roads and how the roads are paid for.

- Weaknesses

- Not facility specific
- Erosion: Fuel tax revenue levels are subject to erosion from increasing fuel economy and alternative fuels.
- Mode specific: Fuel tax revenue is "biased" to one investment (highways).
- Does not take other externalities into consideration (such as tailpipe emissions, noise, safety, etc.)
- Border issues: shopping for cheaper gas across state borders

# Alternatives

- Within the existing tax system
  - Indexed fuel tax
  - Eliminate fuel tax exemptions
  - Reduce transfer payment to transit
  - Increase gas sales tax (% sale)
- Electronic tolling
  - Extend HOT lanes
  - Public toll roads
  - Road metering (GPS)
  - Weight/distance tax (trucks)
- Tolling PPP
  - Extend PPP program
- Other taxes and fees
  - Local option taxes
  - Vignette (fee per year)
  - Multi-axle fee (fee per year)
  - Congestion prices

# PPP

- Of 33 states that have PPP in road transportation or plans to implement such projects, VA is the third in terms of number of projects and the second in terms of value of projects;
- Of 30 states that have PPP projects in road transportation already implemented or plans to implement such projects, VA is the second both in terms of number of projects and value of

# Road PPP Projects

## Concluded (1985-2007)

| <b>Rank value</b> | <b>State</b> | <b>Count</b> | <b>Value</b> |
|-------------------|--------------|--------------|--------------|
| 1                 | TX           | 17           | 31681.1      |
| 2                 | VA           | 13           | 18344.6      |
| 3                 | PA           | 2            | 15600        |
| 4                 | NY           | 1            | 14500        |
| 5                 | NV           | 2            | 6376         |
| 6                 | NJ           | 2            | 6330         |
| 7                 | GA           | 2            | 5400         |
| 8                 | CA           | 8            | 5180         |
| 9                 | WA           | 2            | 5550         |

# Alternatives Scorecard

| Alternatives / Scorecard           | Tax revenue stability | Equity (User Pays) | Low cost of collection/enforcement | Public acceptance |
|------------------------------------|-----------------------|--------------------|------------------------------------|-------------------|
| Within the existing tax system     |                       |                    |                                    |                   |
| Indexed fuel tax                   | X                     | X                  | X                                  | ?                 |
| Eliminate fuel tax exemptions      |                       | X                  | X                                  | X                 |
| Reduce transfer payment to transit |                       |                    | N/A                                |                   |
| Increase gas sales tax (% sale)    | ?                     | X                  | X                                  | ?                 |
| Electronic tolling                 |                       |                    |                                    |                   |
| Extend HOT lanes                   | X                     | X                  | X                                  | X                 |
| Public toll roads                  | X                     | X                  | X                                  | ?                 |
| Road metering (GPS)                | X                     | X                  |                                    | ?                 |
| Weight/distance tax (trucks)       | X                     | X                  |                                    | ?                 |
| Tolling PPP                        |                       |                    |                                    |                   |
| Extend PPP program                 | X                     | X                  | X                                  | X                 |
| Other taxes and fees               |                       |                    |                                    |                   |
| Local option taxes                 | ?                     | X                  | X                                  | ?                 |
| Vignette (fee per year)            | X                     | X                  |                                    | ?                 |
| Multi-axle fee (fee per year)      | X                     | X                  | X                                  | X                 |
|                                    | X                     | X                  |                                    | ?                 |