



Fleet Industry Perspective on Propane – State Fleets

Presented By

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State of Georgia Fleet Operations Division

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Overview

- **State fleets have embraced alternative fuels for over a decade**
- **Recent State Survey Discussion**
- **Alternative fuel choices are continually evolving**
- **Incremental and infrastructure costs still remain a challenge**
- **Cost and access to traditional fossil fuels drive alternative fuel options**
- **Driver and technician education is always a challenge**
- **Need for increased grants for Propane Specific use**

Recent State Survey Discussion



- Arizona - Experience with Propane has been with Bi-fuel Ford 1/2 Ton pickups
- Oregon – Propane is problematic & inconsistent.
- Arizona Barriers - Lack of manufacturer support and statewide commercial fueling infrastructure
- Oregon Barriers - fueling infrastructure is difficult and unable to be operated by many public agency drivers.

Recent State Survey Discussion



- Nevada - Good if used in Bi-fuel pickups
- Nevada Barriers - Up fitting or incremental costs upfront
- Texas - Propane is a good fuel with a good infrastructure, price, and performance.
- Texas Barriers - Price of conversions are too high.

Recent State Survey Discussion



- Minnesota – Experience using it only with forklifts.
- Minnesota Barriers - Have some safety concerns with widespread usage, particularly when storing numbers of vehicles inside. Believe propane is heavier than air, and potentially will "pool" low and be a hazard... if it leaks.

Recent State Survey Discussion



- California - Poor mileage, poor power, reduced fuel capacity which requires mid-day fueling at slow fueling stations with vendors instead of at our sites.
- Virginia - Not much experience.
- California Barriers - Power, number of fueling sites, time to fuel, fuel storage issues, reduced production.
- Virginia Barriers - Fuel availability.

Recent State Survey Discussion



- Missouri DNR - Used several in mid 90s & they did OK for a while, but after a few years, had a hard time getting repairs. Similar with several "OEM" Ford Pickups in 1999 - 2001, only 1 or 2 qualified repair facilities in the state.
- Missouri Barriers - Finding service facilities with qualified technicians. Slight hurdle in getting dispensers -- but provider usually helped.

Alternative Fuel and Other Options Used by State Fleets

- **Propane (LPG)**
- **Compressed Natural Gas (CNG)**
- **Ethanol (E-85)**
- **Biodiesel (B-20)**
- **Hybrids**
- **Plug In Hybrids**
- **Hydrogen**



Driver Education and Operational issues



- Dual fuels are problematic for users
- Access to Propane fuels can be challenging
- Fueling equipment needs to be readily available
- Service station attendants need to be formally educated in fueling vehicles with Propane
- Administrative pressure and oversight to compel operators to use fuel needs to happen
- Grants and funding availability for propane (Over 193 Grant program and only 2 specific for LPG in State of Texas)

Contact Information

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Appendix

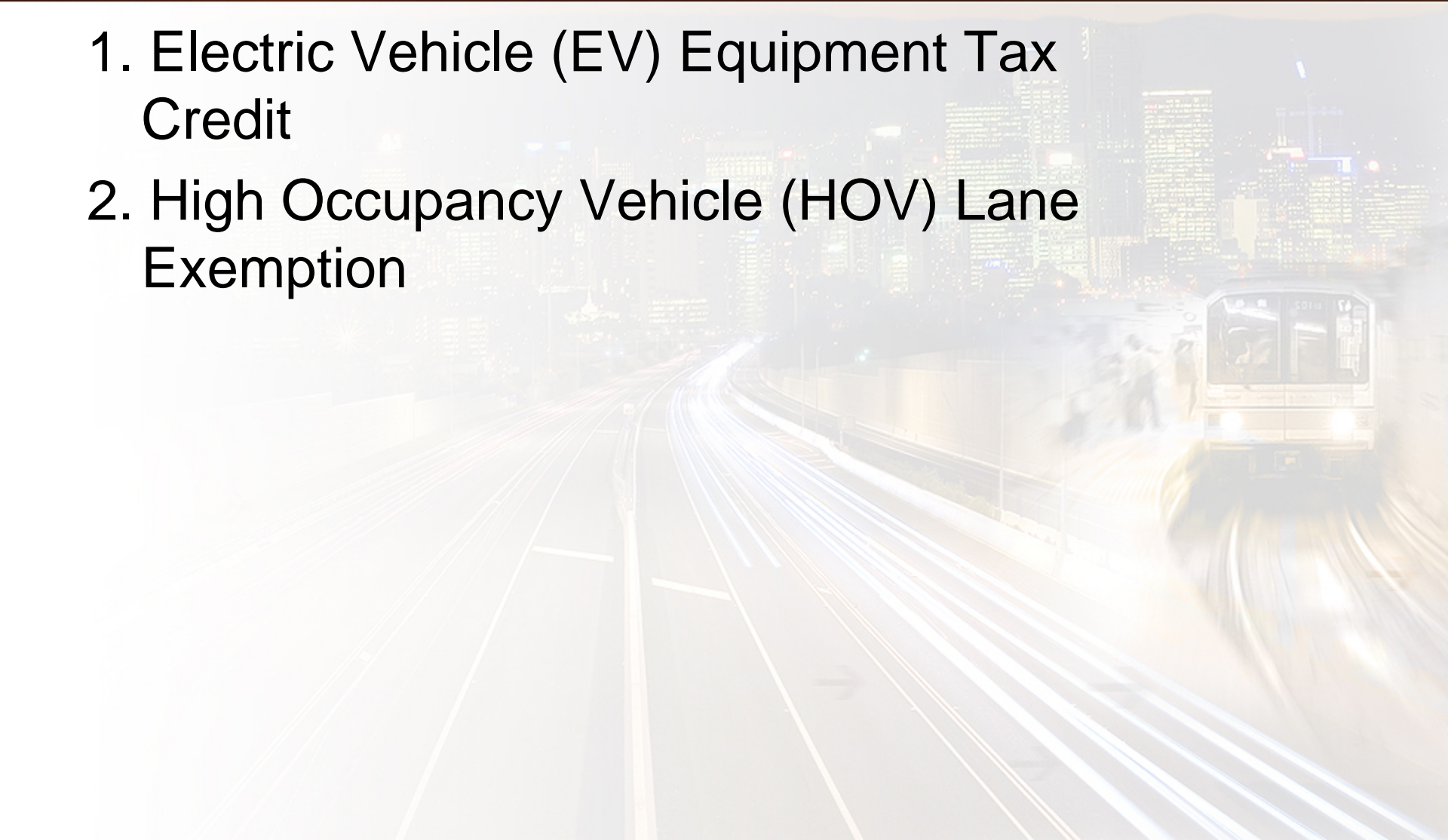
State Grant and AFV Funding Programs in each of the jurisdictions throughout the nation.





Arizona

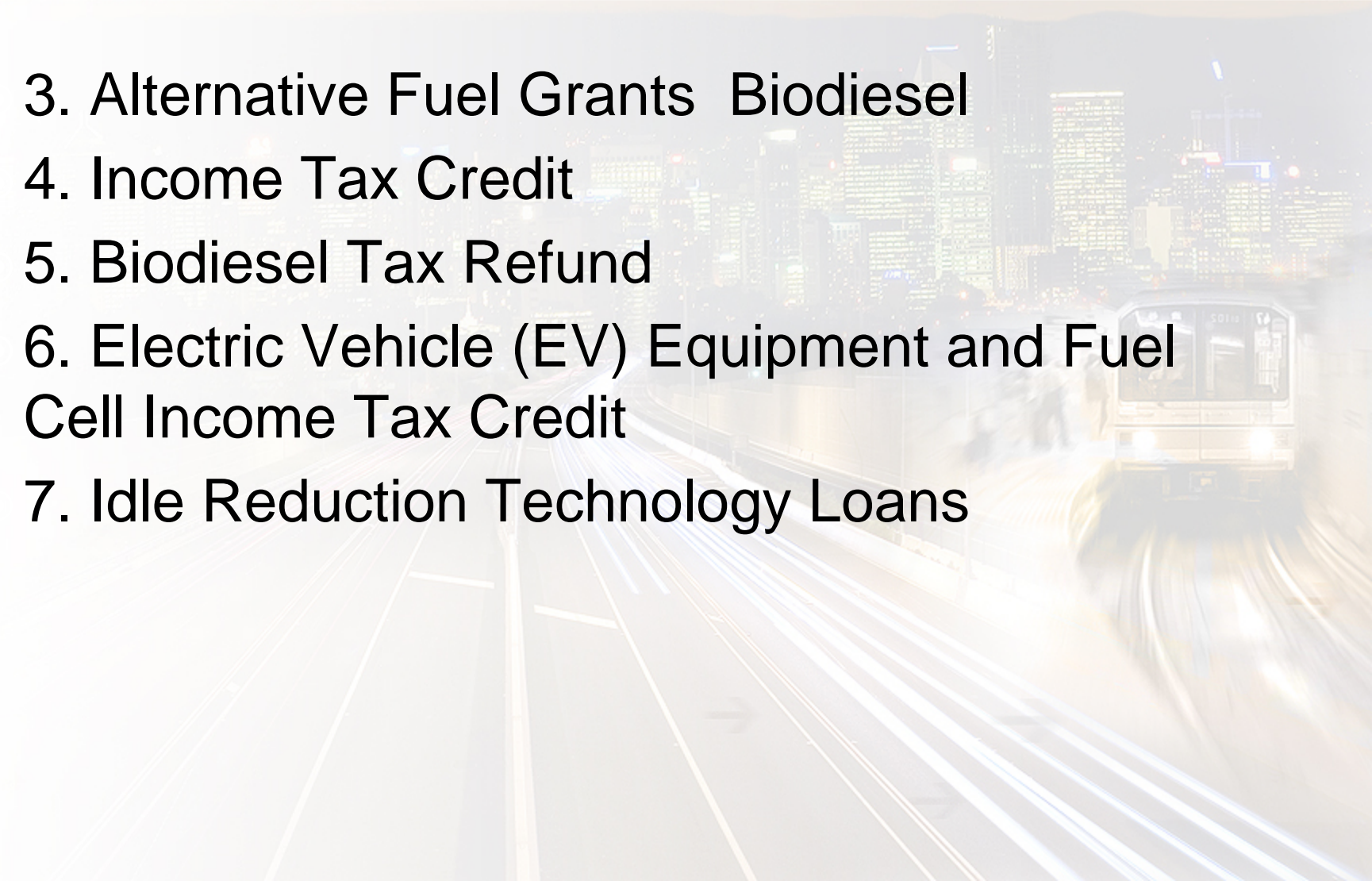
1. Electric Vehicle (EV) Equipment Tax Credit
2. High Occupancy Vehicle (HOV) Lane Exemption



Arkansas



3. Alternative Fuel Grants Biodiesel
4. Income Tax Credit
5. Biodiesel Tax Refund
6. Electric Vehicle (EV) Equipment and Fuel Cell Income Tax Credit
7. Idle Reduction Technology Loans



CALIFORNIA



8. Alternative Fuel Incentive Development
9. Alternative Fuel Research and Development
10. Alternative Fuel Vehicle (AFV) and Refueling Infrastructure
11. Grants and Loans Alternative Fuel Vehicle (AFV) Incentives
Vacaville
12. Alternative Fuel Vehicle (AFV) Parking Incentives - Los Angeles
13. Alternative Fuel Vehicle (AFV) Parking Incentives - Sacramento
14. Alternative Fuel Vehicle, Refueling Infrastructure & Idle
Reduction Grants - San Joaquin Valley
15. Electric Vehicle (EV) Incentive - Vacaville
16. Electric Vehicle (EV) Parking - Los Angeles Airport
17. Free Metered Parking - Hermosa Beach

CALIFORNIA (CONTINUED)



18. Free Metered Parking - Santa Monica
19. Funding for Air Quality Improvement Programs in Ventura County
20. Funding for Emission Reductions
21. Funding for Emission Reductions - South Coast
22. Funding for Heavy-Duty Vehicle Emission Reductions - Sacramento
23. High Occupancy Vehicle (HOV) Lane Exemption
24. Hybrid Electric Vehicle (HEV) Parking Incentives - San Jose
25. Light and Medium-Duty Vehicle Incentive Component - San Joaquin Valley
26. Lower-Emission School Bus Grants
27. Natural Gas Vehicle Incentive - Vacaville
28. Technology Advancement Clean Fuel Program - South Coast
29. Vehicle Emission Reduction Grants - Sacramento

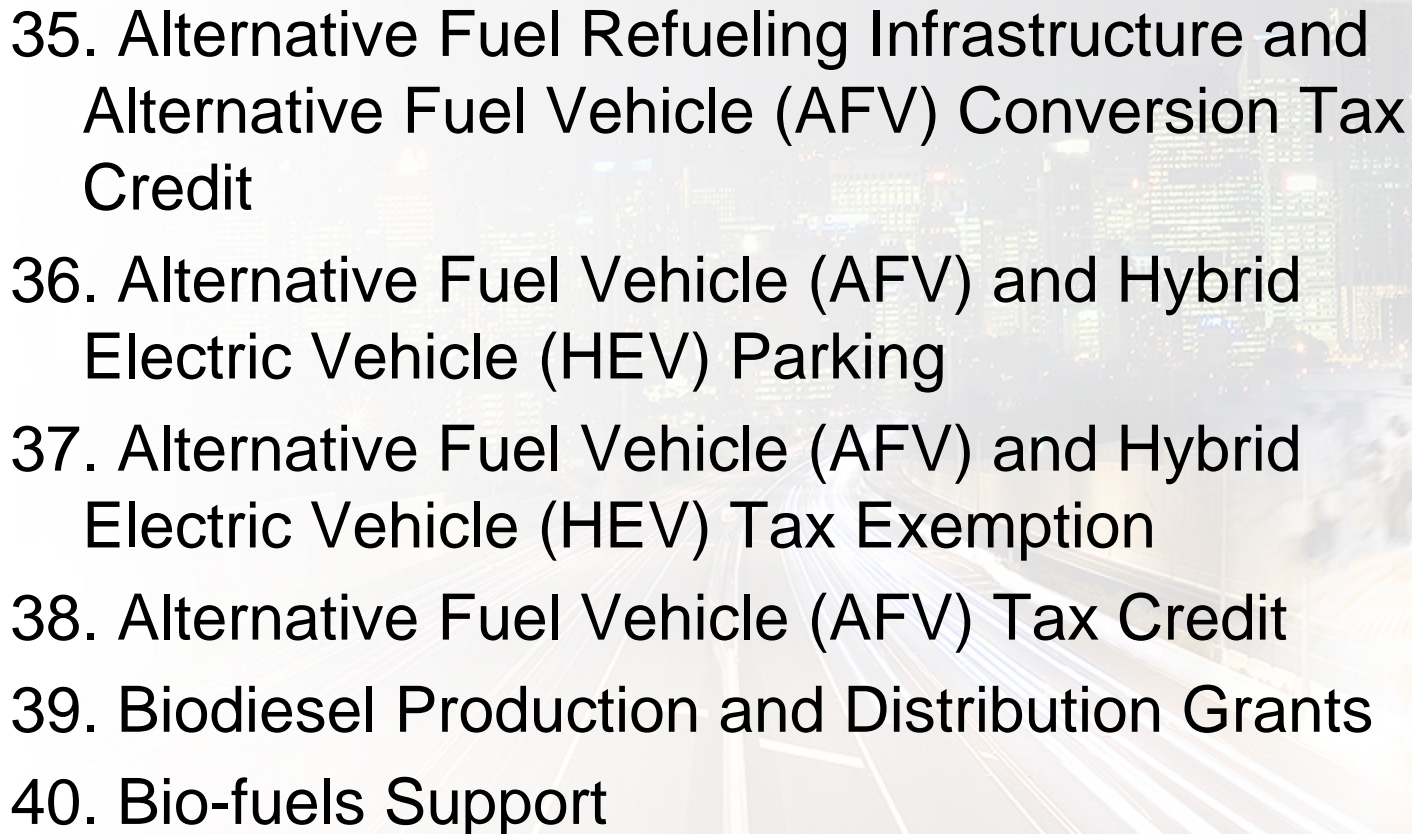


COLORADO

- 
30. Alternative Fuel Refueling Infrastructure Tax Credit
 31. Alternative Fuel Vehicle (AFV) and Hybrid Electric Vehicle (HEV) Tax Credit
 32. Alternative Fuel Vehicle (AFV) Rebate
 33. High Occupancy Vehicle (HOV) Lane Exemption
 34. Low Emission Vehicle (LEV) Sales Tax Exemption



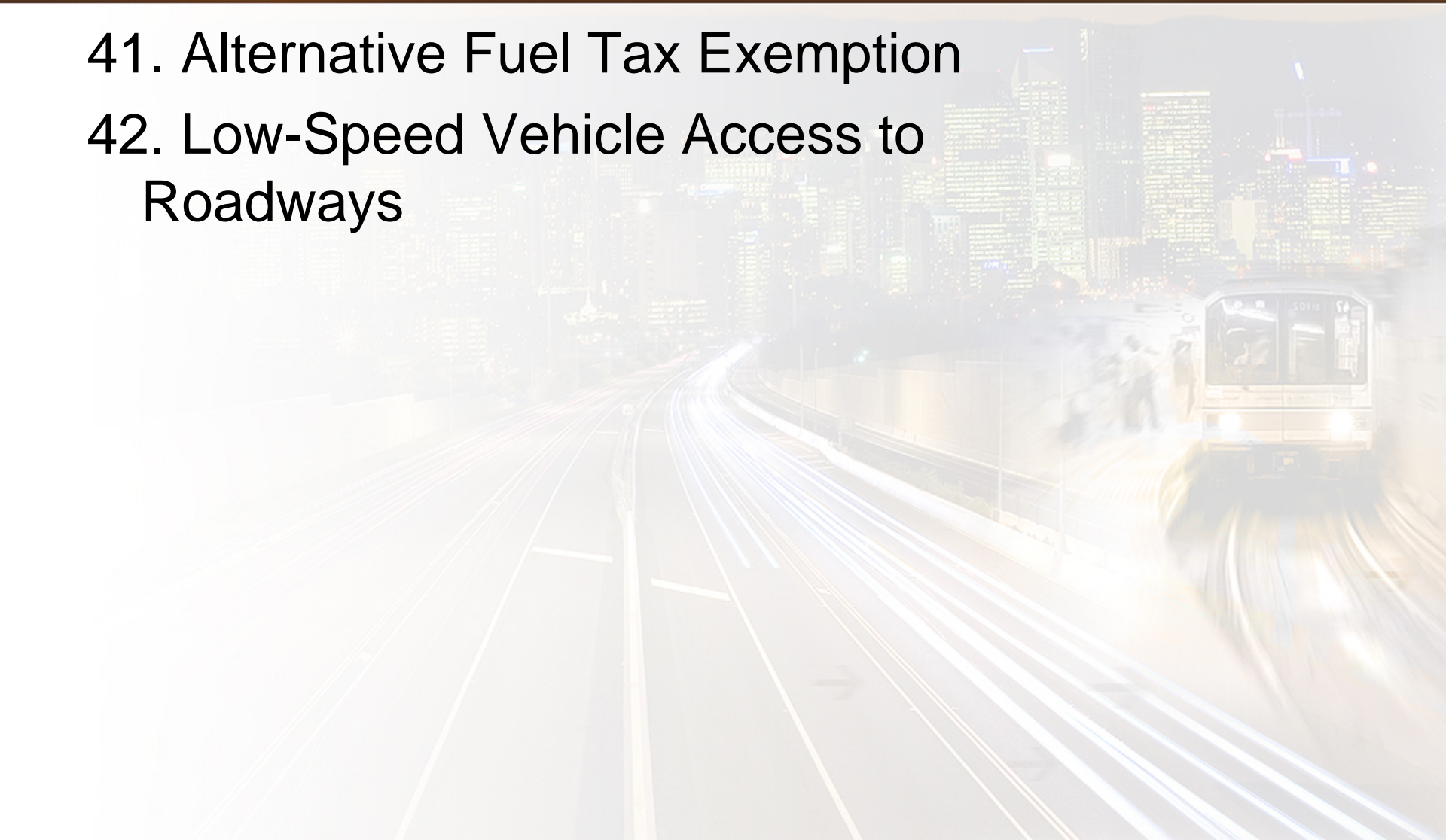
Connecticut

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35. Alternative Fuel Refueling Infrastructure and Alternative Fuel Vehicle (AFV) Conversion Tax Credit
 36. Alternative Fuel Vehicle (AFV) and Hybrid Electric Vehicle (HEV) Parking
 37. Alternative Fuel Vehicle (AFV) and Hybrid Electric Vehicle (HEV) Tax Exemption
 38. Alternative Fuel Vehicle (AFV) Tax Credit
 39. Biodiesel Production and Distribution Grants
 40. Bio-fuels Support



DELAWARE

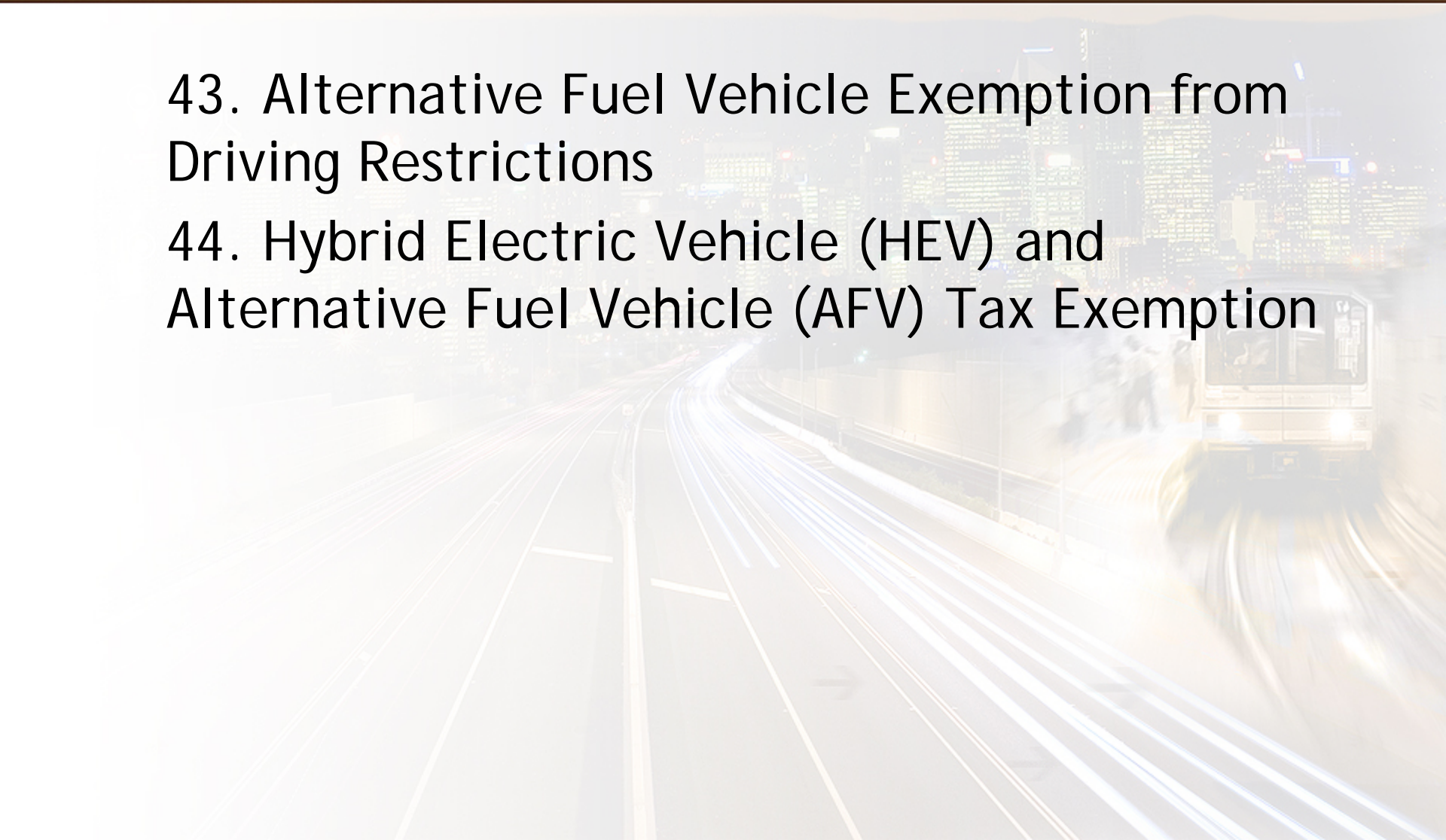
- 41. Alternative Fuel Tax Exemption
- 42. Low-Speed Vehicle Access to Roadways



District of Columbia



- 43. Alternative Fuel Vehicle Exemption from Driving Restrictions
- 44. Hybrid Electric Vehicle (HEV) and Alternative Fuel Vehicle (AFV) Tax Exemption



Florida



- 45. High Occupancy Vehicle (HOV) Lane
- 46. Exemption Hydrogen and Bio-fuels Investment Tax Credit
- 47. Hydrogen and Bio-fuels Tax Exemption
- 48. Renewable Energy Grants

Georgia



49. Alternative Fuel Vehicle (AFV) High Occupancy Vehicle (HOV) Lane Exemption
50. Alternative Fuel Vehicle (AFV) Tax Credit
51. Electric Vehicle (EV) Charger Tax Credit
52. Zero Emission Vehicle (ZEV) Tax Credit
53. Bio-fuel Infrastructure Grant Fund
54. Bio-fuel Refueling Infrastructure Tax Credit
55. Bio-fuels Tax Deduction

Hawaii



- 56. Business Investment Tax Credit
- 57. Ethanol Production Incentive





Illinois

- 58. Alternative Fuel Vehicle (AFV) and Alternative Fuel Rebates
 - 59. Alternative Fuel Vehicle (AFV) Incentives
 - 60. Bio-fuels Research and Development
 - 61. Clean School Bus Program
 - 62. E85 Refueling Infrastructure Grant
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- The background of the lower section is a blurred night cityscape. Light trails from traffic and a train are visible, creating a sense of motion. The train is on the right side, moving towards the viewer. The overall tone is light and airy due to the blur and light trails.

Indiana



- 63. Alternative Fuel Vehicle (AFV) Manufacturer Tax Credit
- 64. Biodiesel Blending Tax Credit
- 65. Biodiesel Price Preference
- 66. Biodiesel Production Tax Credit
- 67. Biodiesel Retailer Tax Credit
- 68. E85 Fuel Retailer Tax Credit
- 69. E85 Fuel Use Tax Credit
- 70. E85 Fueling Station Grant Program Ethanol Production Tax Credit
- 71. Vehicle Research and Development Grants

Iowa



72. Alternative Fuel Loan Program
73. Alternative Fuel Production Loans
74. Alternative Fuel Production Tax Credits
75. Alternative Fuel Research and Development
76. Alternative Fuel Vehicle (AFV) Grants
77. Biodiesel Tax Credit
78. Bio-fuels Infrastructure Cost-Share Program
79. Bio-fuels Infrastructure Grants
80. Ethanol Tax Credit

Kansas



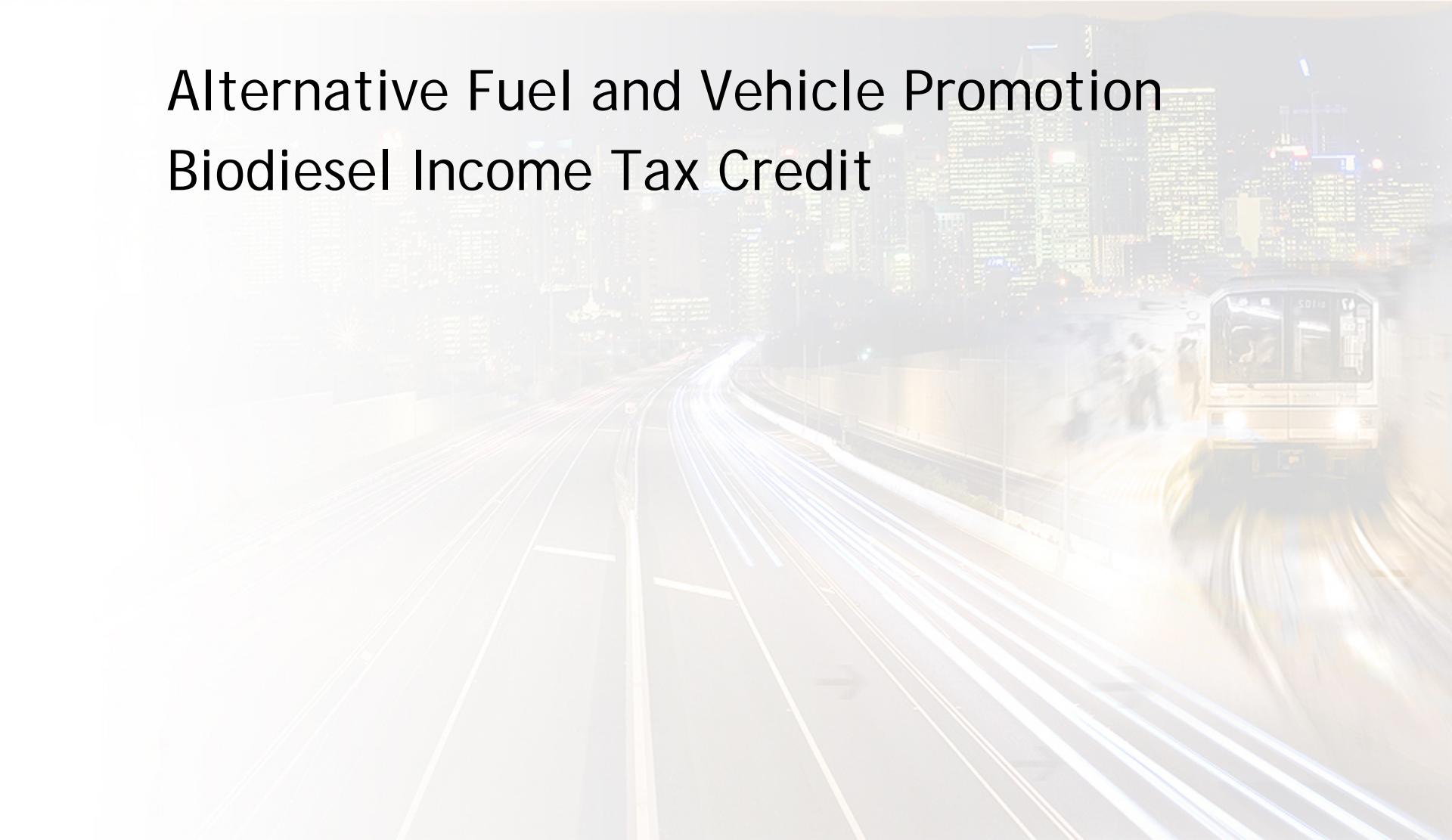
Alternative Fuel Refueling Infrastructure Tax Credit
Alternative Fuel Vehicle (AFV) Tax Credit
Biodiesel Production Incentive
Ethanol Production Incentive
Renewable Fuel Retailer Incentive



Kentucky



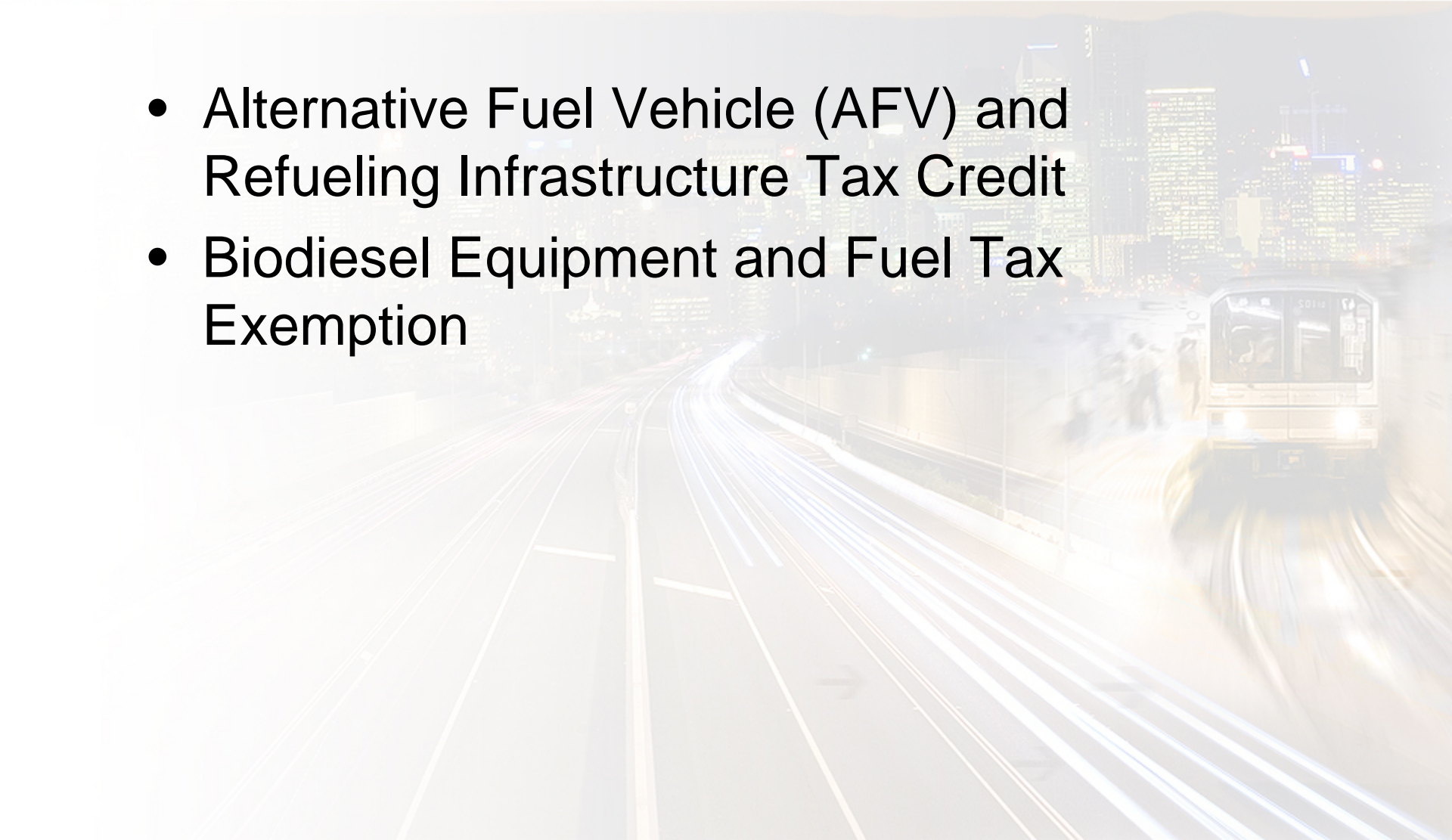
Alternative Fuel and Vehicle Promotion
Biodiesel Income Tax Credit



Louisiana



- Alternative Fuel Vehicle (AFV) and Refueling Infrastructure Tax Credit
- Biodiesel Equipment and Fuel Tax Exemption



Maine



81. Alternative Fuel Refueling Infrastructure Tax Credit

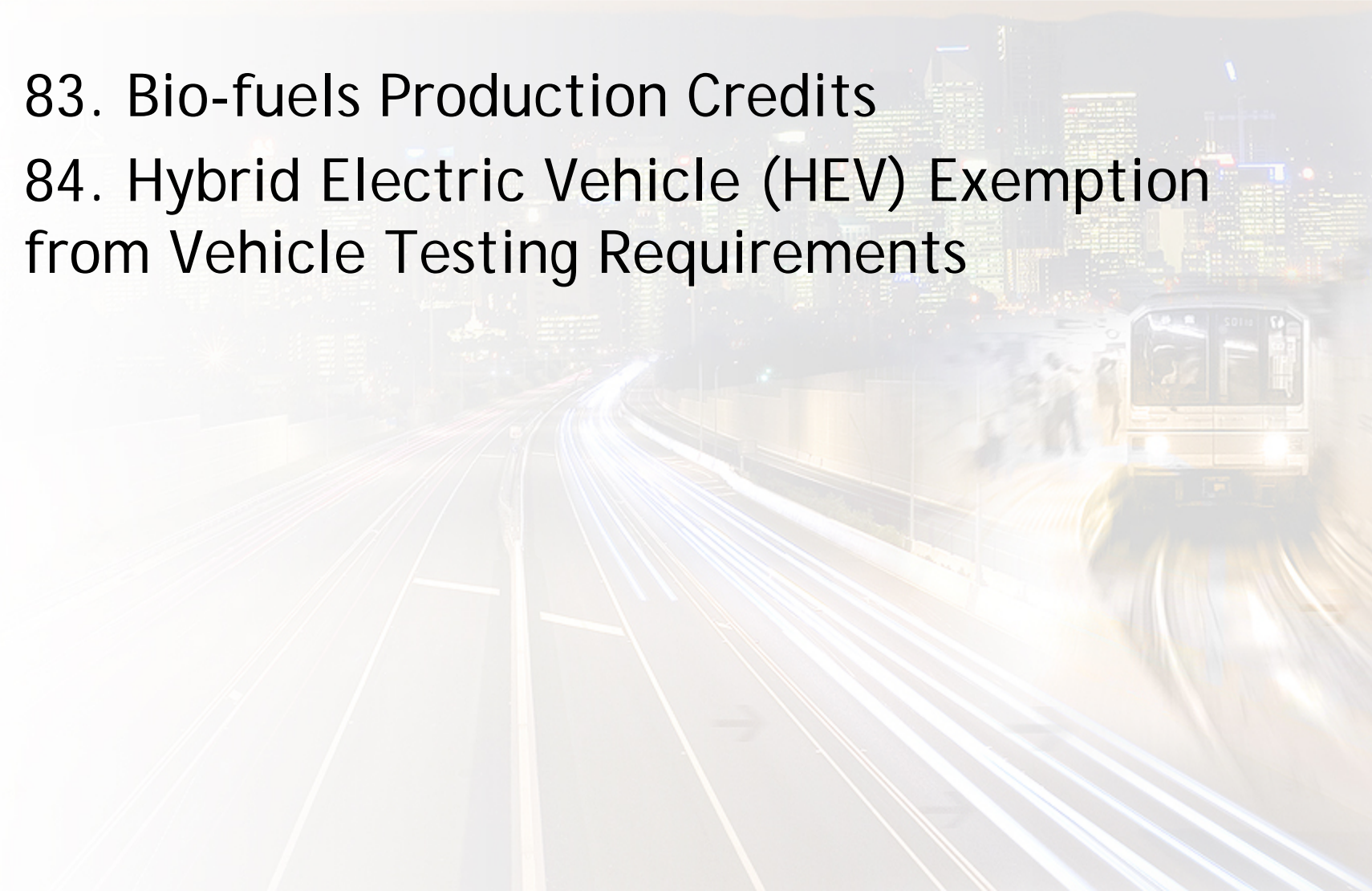
82. Bio-fuels Production Incentive

Maryland



83. Bio-fuels Production Credits

84. Hybrid Electric Vehicle (HEV) Exemption
from Vehicle Testing Requirements



Michigan



- 85. Alternative Fuel Development Property Tax Exemption
- 86. Alternative Fuel Vehicle (AFV) Emissions Inspection Exemption
- 87. Hybrid Electric Vehicle Research and Development Tax Credit
- 88. Reduced Bio-fuels Tax



Mississippi



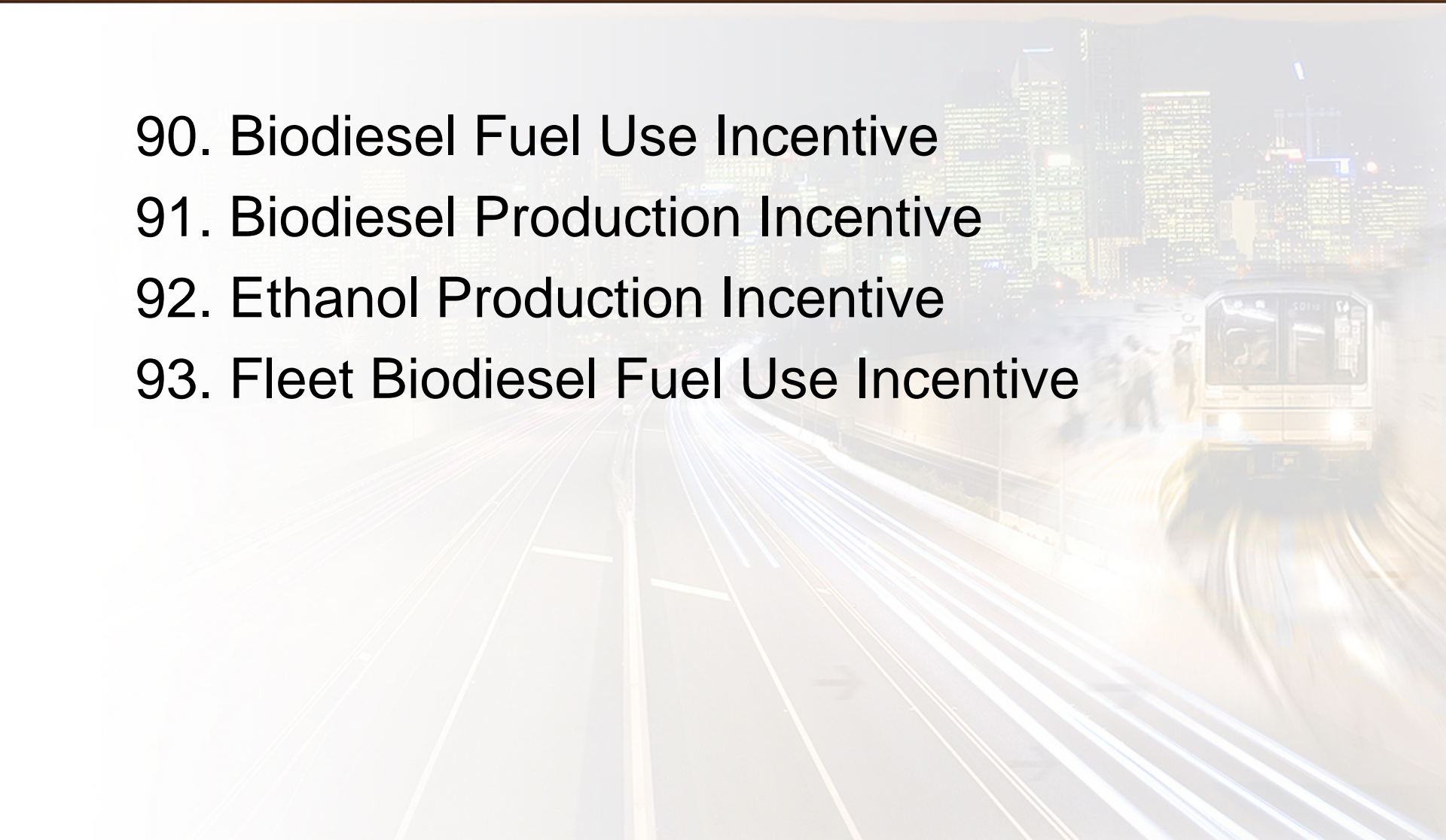
89. Biofuels Production Incentive



Missouri



- 90. Biodiesel Fuel Use Incentive
- 91. Biodiesel Production Incentive
- 92. Ethanol Production Incentive
- 93. Fleet Biodiesel Fuel Use Incentive



Montana



Alternative Fuel Vehicle Conversion Tax Credit

Biodiesel Production Facility Tax Credit

Biodiesel Production Incentive

Biodiesel Tax Credit

Ethanol Production Incentive

Renewable Energy Property Tax Incentive

Tax Reduction for Ethanol Blends

Nebraska



- Alternative Fuel Tax Refund
- Alternative Fuel Vehicle (AFV) and Refueling Infrastructure Loans
- Biodiesel Production Investment Tax Credit

New Jersey

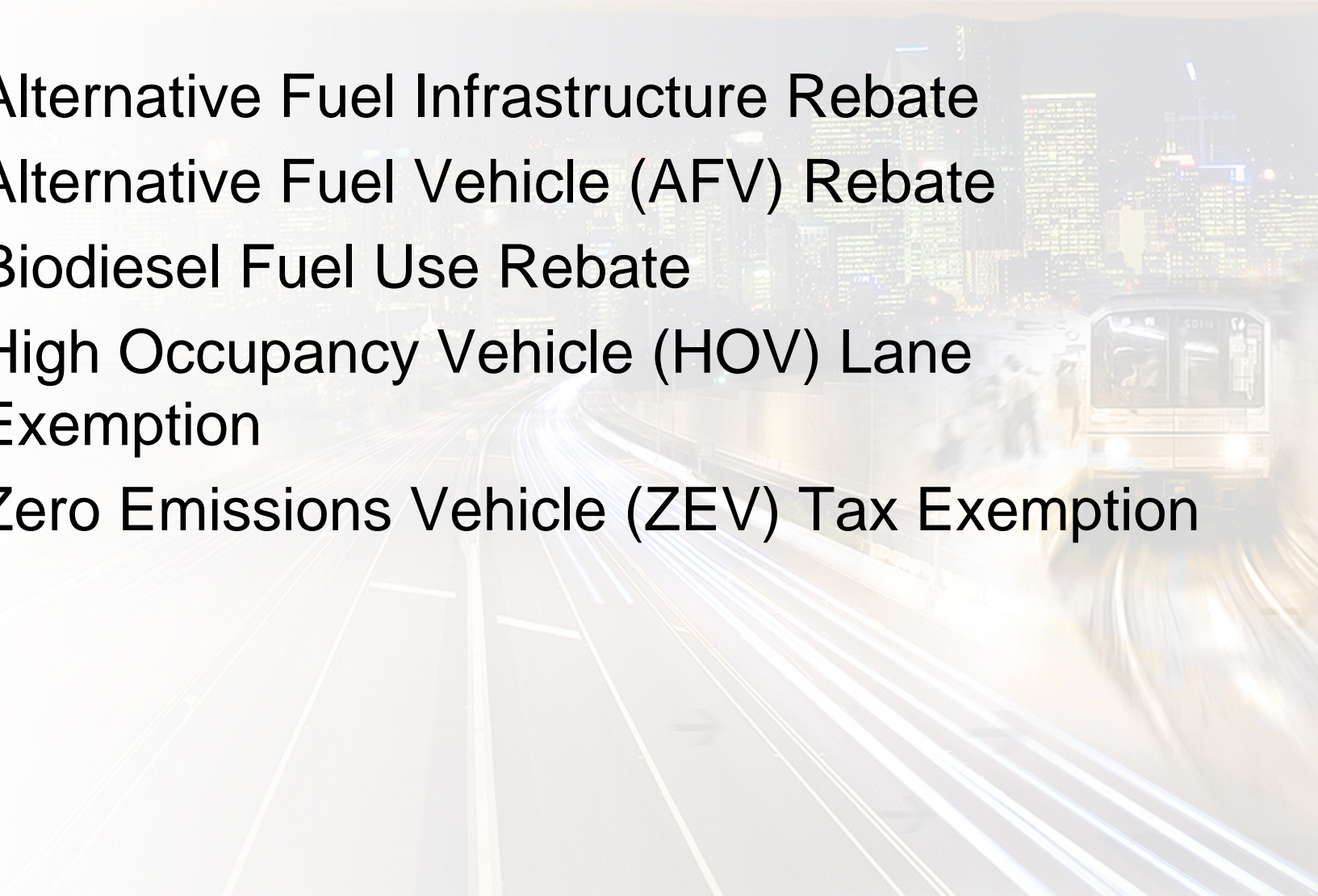


Alternative Fuel Infrastructure Rebate
Alternative Fuel Vehicle (AFV) Rebate

Biodiesel Fuel Use Rebate

High Occupancy Vehicle (HOV) Lane
Exemption

Zero Emissions Vehicle (ZEV) Tax Exemption



New Mexico



- 94. Alternative Fuel Vehicle (AFV) and Refueling Infrastructure Grants
- 95. Alternative Fuel Vehicle Research and Development Tax Credit
- 96. Biodiesel Income Tax Credit
- 97. Bio-fuels Tax Credit
- 98. Hybrid Electric Vehicle (HEV) Tax Exemption
- 99. Hydrogen and Fuel Cell Development

New York



- 100. Alternative Fuel Bus Incentives
- 101. Alternative Fuel Product Development Funding
- 102. Alternative Fuel Refueling Infrastructure Tax Credit
- 103. Alternative Fuel Tax Exemption
- 104. Alternative Fuel Technical Assistance
- 105. Alternative Fuel Vehicle (AFV) Technical Assistance
- 106. Alternative Fuel, Alternative Fuel Vehicle (AFV) and Refueling Infrastructure Funding
- 107. Compressed Natural Gas (CNG) Taxi Funding
- 108. New York City Alternative Fuel Vehicle (AFV) and Electric Vehicle (EV) Funding

North Carolina

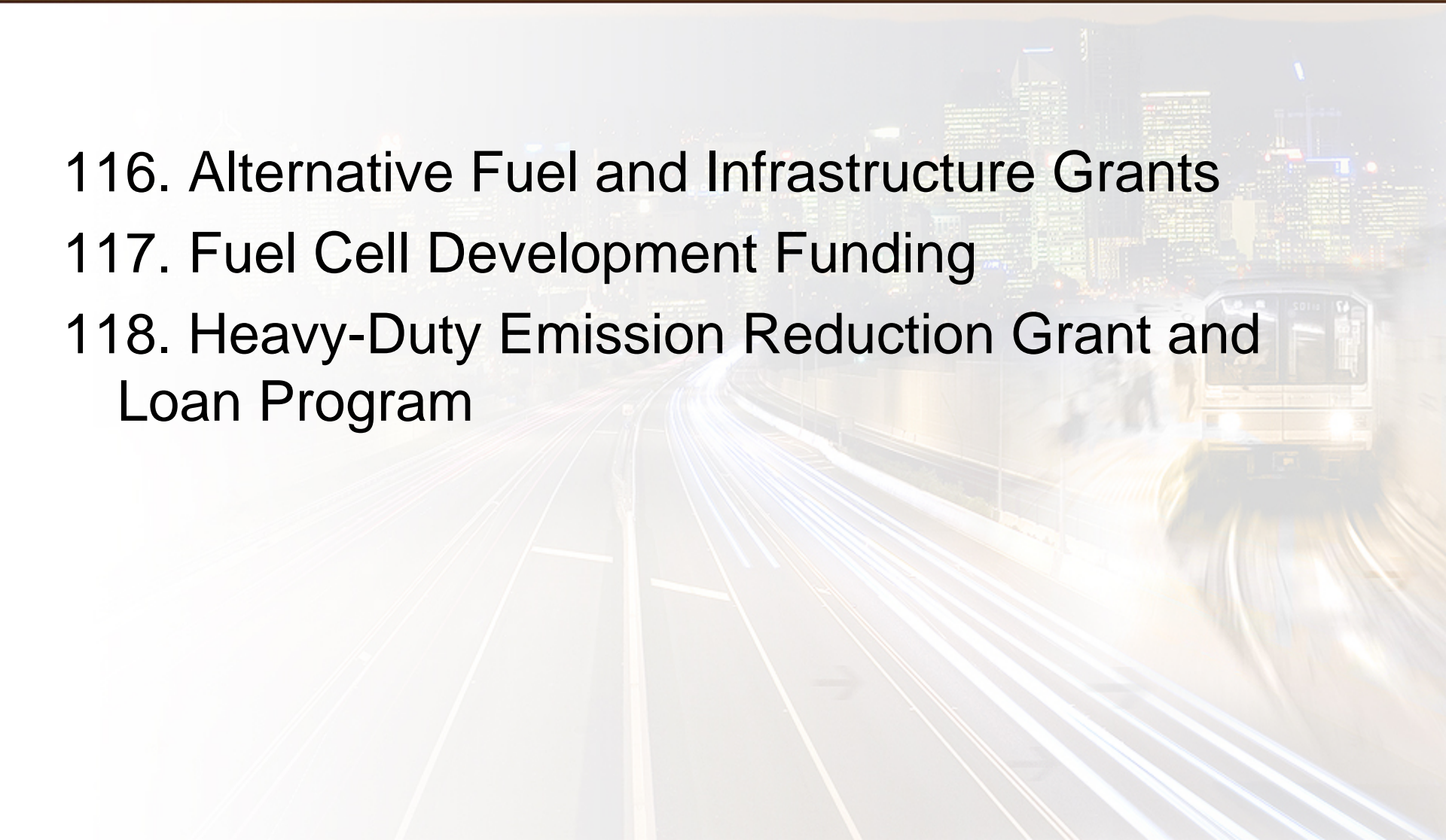


- 109. Alternative Fuel and Alternative Fuel Vehicle (AFV) Fund
- 110. Alternative Fuel and Hybrid Vehicle Grants
- 111. Alternative Fuel Production Tax Credit
- 112. Alternative Fuel Refueling Infrastructure Tax Credit
- 113. Alternative Fuel Vehicle (AFV) Grants
- 114. Biodiesel Production Tax Credit
- 115. Renewable Energy Property Tax Credit

Ohio



- 116. Alternative Fuel and Infrastructure Grants
- 117. Fuel Cell Development Funding
- 118. Heavy-Duty Emission Reduction Grant and Loan Program



Oklahoma



119. Alternative Fuel Vehicle (AFV) and Refueling Infrastructure Loans

120. Alternative Fuel Vehicle (AFV) and Refueling Infrastructure Tax Credit

121. Alternative Fuel Vehicle (AFV) Loans

122. Alternative Fuel Vehicle (AFV) Tax Credit

123. Biodiesel Production Facility Tax Credit

124. Bio-fuels Tax Exemption

125. Ethanol Fuel Retailer Tax Credit

126. Ethanol Production Tax Credit

Oregon



127. Alternative Fuel Loans


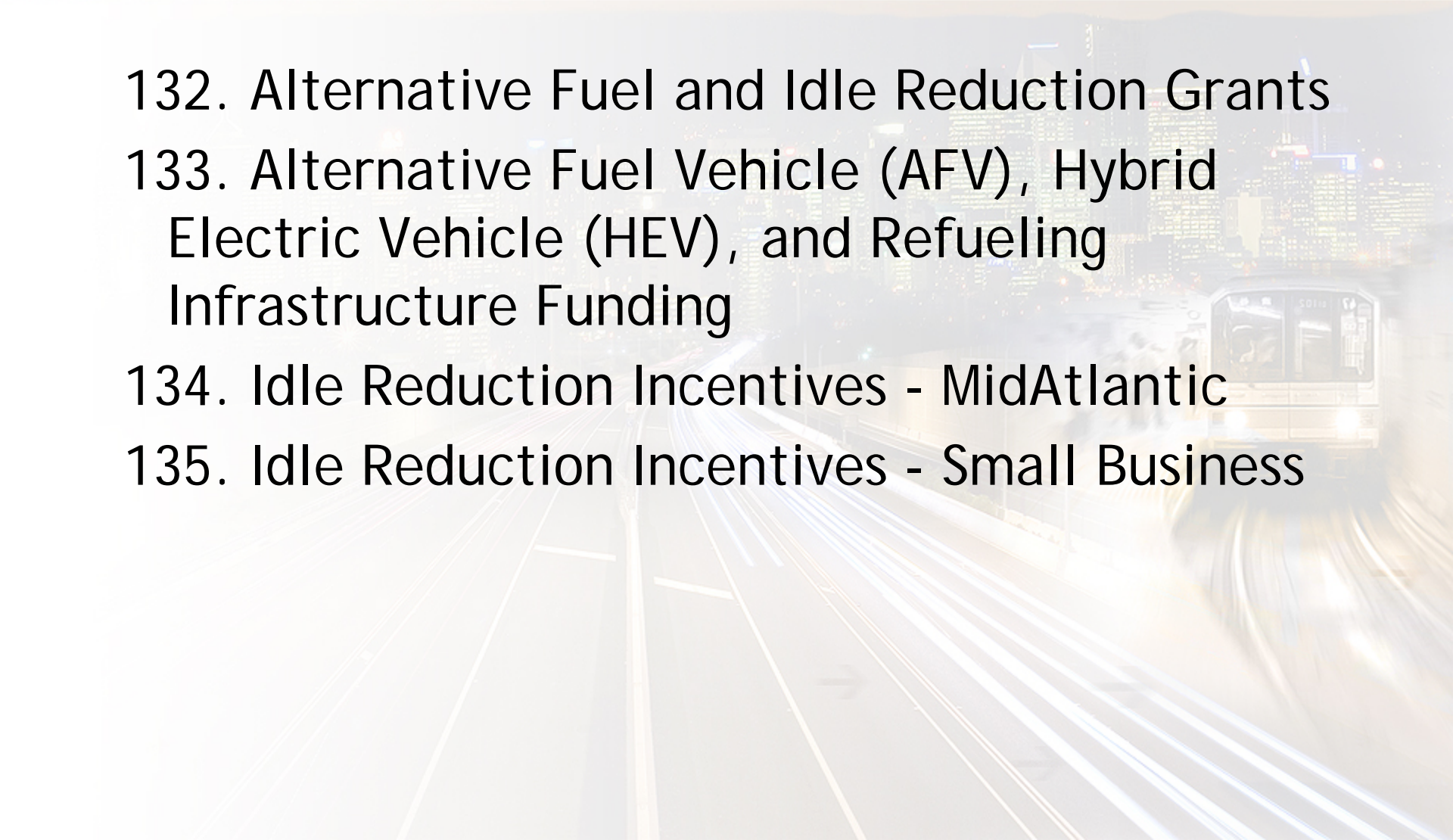
128. Alternative Fuel Vehicle (AFV) and Hybrid Electric Vehicle (HEV) Tax Credit

129. Alternative Fuel Vehicle (AFV), Hybrid Electric Vehicle (HEV) & Refueling Infrastructure Tax Credit

130. Idle Reduction Incentives

131. Portland Bio-fuels Incentives

Pennsylvania

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- 132. Alternative Fuel and Idle Reduction Grants
 - 133. Alternative Fuel Vehicle (AFV), Hybrid Electric Vehicle (HEV), and Refueling Infrastructure Funding
 - 134. Idle Reduction Incentives - MidAtlantic
 - 135. Idle Reduction Incentives - Small Business

Rhode Island



- 137. Alternative Fuel Tax Deduction
- 138. Alternative Fuel Vehicle (AFV) and Refueling Infrastructure Tax Credit
- 139. Alternative Fuel Vehicle (AFV) Loans
- 140. Alternative Fuel Vehicle (AFV) Tax Exemption
- Warren
- 141. Biodiesel Tax Exemption Electric Vehicle (EV) Tax Credit

South Carolina



- 142. Alternative Fuel Vehicle (AFV) Sales Tax Rebate
- 143. Alternative Fuel Vehicle (AFV) Tax Credit
- 144. Bio-fuels Distribution Infrastructure Tax Credit
- 145. Bio-fuels Production Facility Tax Credit
- 146. Bio-fuels Production Tax Credit
- 147. Bio-fuels Research and Development Tax Credit
- 148. Bio-fuels Retail Incentive
- 149. Plug-In Hybrid Electric Vehicle (PHEV) Tax Credit

South Dakota



150. Biodiesel Production Facility Tax Refund

151. Ethanol and Methanol Tax Report Credit

152. Ethanol Production Incentive

Tennessee



153. Biodiesel Infrastructure Grants

154. Provision for Establishing a Biodiesel Incentive

155. Provision for Establishing Alternative Fuel Refueling Infrastructure Grants

156. Provision for Establishing an Alternative Fuel Research and Development Program



Texas



157. Alternative Fuel Grant Assistance

158. Alternative Fuel Grants

159. Alternative Fuel Research and Development
Alternative Fuel Vehicle (AFV) Grants

160. Clean Vehicle and Equipment Grants

161. Heavy-Duty Natural Gas Vehicle (NGV) Grants

**162. Liquefied Petroleum Gas (LPG) Bus and Forklift
Rebate**

163. Liquefied Petroleum Gas (LPG) Vehicle Training

164. Natural Gas Fuel Rates and Alternative Fuel
Promotion

Utah



- 165. Alternative Fuel Vehicle (AFV) and Refueling Infrastructure Grants and Loans
- 166. Alternative Fuel Vehicle (AFV) Parking Incentive
- 167. Alternative Fuel Vehicle (AFV) Tax Credit
- 168. High Occupancy Vehicle (HOV) Lane Exemption

Vermont



- 169. Agricultural Economic Development Plan for Bio-fuels
- 170. Alternative Fuel Vehicle (AFV) Acquisition Requirements
- 171. Fuel Efficient Vehicle Acquisition Requirements
- 172. Governor's Commission on Climate Change
- 173. Idle Reduction Requirement
- 174. Neighborhood Electric Vehicle (NEV) Access to Roadways
- 175. State Agency Energy Plan Transportation Requirements

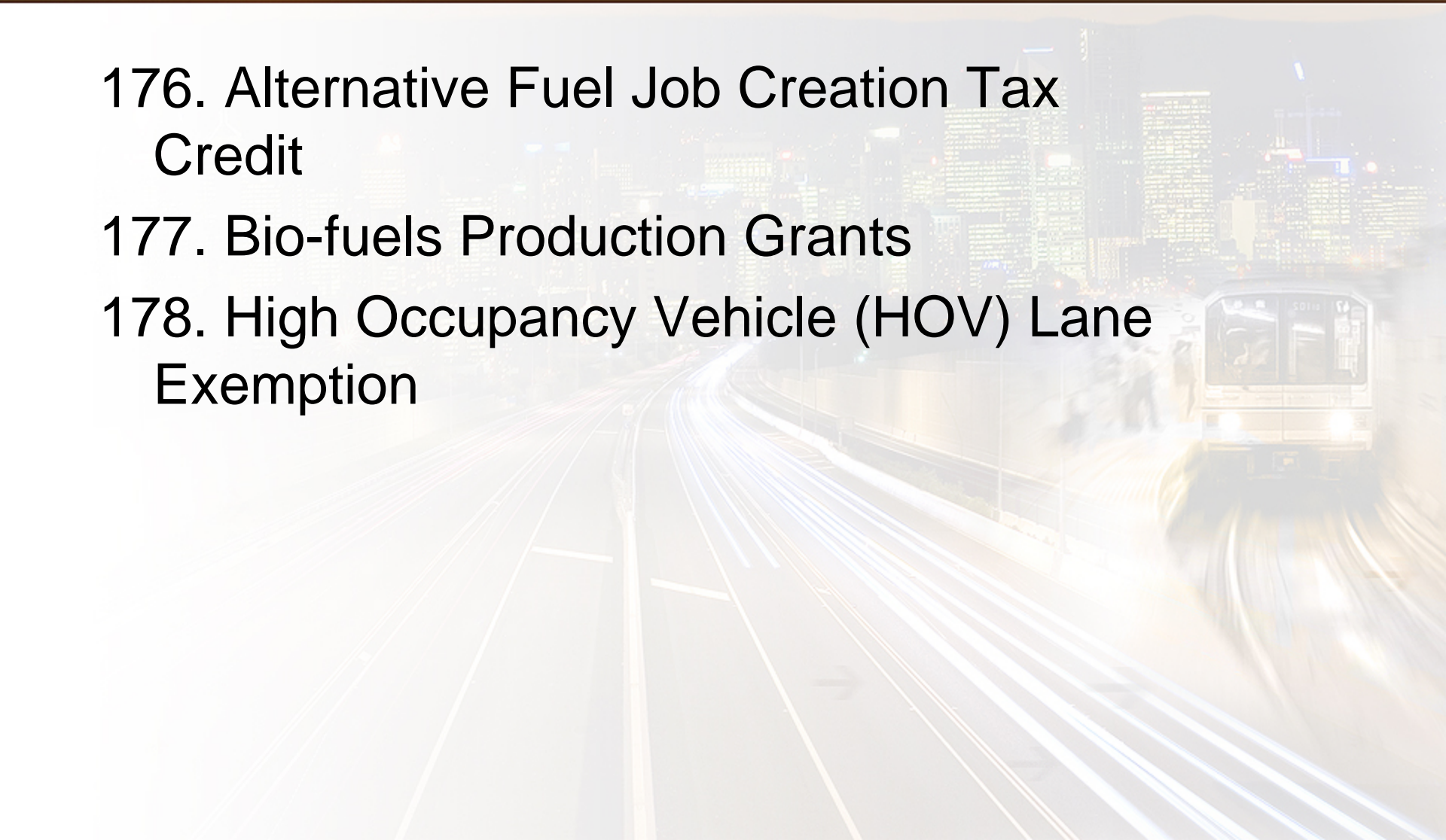
Virginia



176. Alternative Fuel Job Creation Tax Credit

177. Bio-fuels Production Grants

178. High Occupancy Vehicle (HOV) Lane Exemption



Washington



- 179. Alternative Fuel Grant and Loan Program
- 180. Alternative Fuel Vehicle (AFV) and Hybrid Electric Vehicle (HEV) Tax Exemption
- 181. Alternative Fuel Vehicle (AFV) Annual Fee
- 182. Bio-fuels Production Tax Exemption
- 183. Bio-fuels Retail Tax Exemption
- 184. Bio-fuels Tax Deduction
- 185. Electric and Plug-In Hybrid Electric Vehicle Demonstration Grants
- 186. Idle Reduction Tax Incentives

West Virginia



187. Alternative Fuel School Bus Incentive



Wisconsin

188. Alternative Fuel Tax Refund for Taxis

189. Alternative Fuel Vehicle (AFV) Tax
Deduction

190. Biodiesel Fuel Use Incentive

191. Idle Reduction Grant Program

192. Vehicle Battery and Engine Research Tax
Credits

Wyoming

193. Ethanol Motor Fuel Production Tax Credit

