Data Insight

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The Energy Implications of Transit-Oriented Travel for Riyadh in 2030

This insight uses data from the Royal Commission for Riyadh City’s (RCRC’s)\(^1\) four-step traffic model of 2016.\(^2\) This is the most recent trip data available for Riyadh.

In 2016, there were 258 million kilometers per day of total vehicle kilometers driven by cars or taxis and 15 million trips per day.

This is equivalent to 40.3 kilometers per capita (given the population of 6.4 million in Riyadh in 2016).\(^3\)

Energy implication

Based on a projected population of 8.3 million in Riyadh in 2030, the same level of car use per capita as in 2016 would lead to fuel consumption of 31.9 million liters per day (based on the current fuel efficiency in the Kingdom of 10.5 kilometers per liter [km/l]).\(^4\) This scenario is denoted in the figure below as “Car-oriented travel pattern.”

If public transport accounts for 30% of all transport by 2030, this would reduce energy consumption by 9.6 million liters of fuel per day. This scenario is denoted in the figure below as “Transit-oriented travel pattern.”

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\(^1\) Previously known as the Arriyadh/Riyadh Development Authority (ADA and RDA).

\(^2\) Many impactful trends that would impact the findings of this insight, such as ride sharing services and the legalization of women drivers, occurred after 2016.

\(^3\) RCRC’s traffic model projection.

\(^4\) SEEC’s assessment.
Estimated car travel kilometers and fuel consumption for 2030

<table>
<thead>
<tr>
<th>Kilometers travelled by cars (million per day)</th>
<th>Liters of fuel consumed by cars (million per day)</th>
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</thead>
<tbody>
<tr>
<td>Transit-oriented travel pattern</td>
<td>Car-oriented travel pattern</td>
</tr>
<tr>
<td>234.2</td>
<td>334.6</td>
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<tr>
<td>22.3</td>
<td>31.9</td>
</tr>
</tbody>
</table>

Source: KAPSARC analysis based on RCRC Traffic Model Output 2016.

Authors: Abu Toasin Oakil and Abdelrahman Muhsen