Busan’s New Urban-Rail Plan: Improving Urban Mobility and Quality of Life

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Outline of Presentation

- Current Passenger Rail-Network in Busan
- Changes in Area & Land Cover
- Spatial Mismatch by Development Practices
- Urban Mobility and Mode Shares
- Urban-Rail Plan from City to Busan Metropolitan
- Development of the Urban-Rail Network: Issues and Challenges
The 1st urban-rail was opened in 1985~1990, and the 4th and 5th rails are light rails.

Express Rail (KTX) was opened in 2004~2010.

Regional rails was opened in early 1900s, and now is being improved for passenger service.

No rail service in west & north-east of Busan, Why?
Changes in Area & Land Cover

◆ Changes in Administrative Districts

More lands have been urbanized due to the lift of preservation areas (Green Belt).

- LANDSAT satellite show the doubled expansion of urban area from 1985 to 2010.
  - $122\text{km}^2$ in 1985
  - $260\text{km}^2$ in 2010
Spatial Mismatch by Development Practices

- Geographical constraints: mountains, river, and less flatlands
- Institutional constraints (regulation): green belt was recently lifted.
- High population density in old areas, but more workplaces in new areas are mostly accessed by passenger cars: getting to car-dependent city in the future
- So, how to resolve this spatial mismatch?
Urban Mobility in Busan Transportation

Traffic Volumes 2014

- Below 20,000
- 20,000–50,000
- 50,000–70,000
- 70,000–100,000
- Over 100,000

Urban Rail Ridership: 1990–2014

[Graph showing ridership over time for different lines]
Mode Shares in Busan Transportation

Challenge in 2030
- Bus: 25%
- Urban Rail: 28%
- Taxi + P-Car: 37%
- Others: 10%

Forecasting Trips

Year 2014

Year 2030
Urban-Rail Plan from City to Busan Metropolitan

- Total 161.2 km of rail-network will be added until 2026, and two regional rails are under construction and will work for both urban rail and commute rail.

<table>
<thead>
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<th>Type of Rail</th>
<th>Line</th>
<th>Length (km)</th>
<th>Specific</th>
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<td>C1</td>
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<td>LRT (AGT)</td>
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<tr>
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<td>N2</td>
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<tr>
<td>Regional</td>
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<td>(Urban +</td>
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<td>Commute)</td>
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Development of the Urban-Rail Network: Issues and Challenges

- Integration within the public transportation system:
  => Bus, BRT, and types of rails (MRT, LRT, Tram)

- Integration within other elements of the transport system:
  => adequate connectivity with walking, biking, taxis, cars and motor-cycles, and informal transport services.

- Integration within the built environment: access to dense, accessible, mixed-use urban environments

- Quality of service (quality of life)

- Finance

- Institutions
Thank you !