



Asia-Pacific
Economic Cooperation

Advancing
Free Trade for Asia-Pacific
Prosperity

Integration of regional policy and transport plan (introductory)

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The Beginning



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- Long term National Comprehensive development plan to maximize national growth engine, to lead to balanced development, to maintain sustainability, and so on while reflecting current circumstances.
- Locating National development axes/belts/centers with purpose featured such as industry/energy/tourism/academy/cultures/environment/business...
- Linking those axes/belts/centers through arterial transport networks such as highways, express railways, airports, or sea ports..

Structuring Veins



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- Describe Transport zones (regions, simply) as functions producing and receiving traffic volumes. The functions are determined by regressions... Ex. $T_{ij} = \frac{P_i(A_j \times F_{ij})}{\sum_{k=1}^{zones} A_k \times F_{ik}}$
- People chooses the most economic routes and modes. (Korea has more than 700,000 road links). We estimate the patterns through utility functions. Ex. $P(k) = \frac{e^{U_k}}{\sum_i^n e^{U_i}}$
- If Korean developer plans to build a road, the imaginary network change will change the traffic volume distributions. If the change saves the travel time considering also the cost, the road will pass the feasibility test. (of course, a lot of other qualitative things will be

What can we do more?



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- We need to reflect real impacts of Travel cost reduction. Overcoming a certain time gap, supply chains functionality will increase to the maximum (Ex. Lean Production theory's 'Beer game')
- Combining the Regional infrastructure's production function and transport plan at the same time from the beginning through 'big data' operations (Now we do separately and hierarchically)
- We need to fuse the reality the accessibility shows regarding industry and business into the national growth engine strategy. (E.g. Bus accessibility is proportionate with income level so that we consider allotting part of low income people's residence to good accessibility places to reduce inequality)