Urban & Inter-City Logistics in Transition: A Thailand Road Freight Agenda for the Next Ten Years

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Objective

To present evidence-based insights on the future of **urban and inter-city road freight transport in Thailand**, using a structured foresight and policy analysis methodology, with the aim of:

1. **Highlighting key challenges and opportunities** facing freight transport.
2. **Explaining the methodology** applied to analyze trends and scenarios.
3. **Proposing strategic directions and policy recommendations** for sustainable and efficient freight systems.
4. **Clarifying the role of government** in adopting and implementing these recommendations.

Agenda

1. **Introduction**
2. **Methodology**
    1. Thematic analysis
    2. PESTLE analysis
    3. Stakeholder engagement
    4. Foresight methodology
    5. MCDA for project prioritization
3. **Findings**
    1. Urban freight: challenges and opportunities
    2. Inter-city freight: challenges and opportunities
4. **Policy Directions**
    1. Urban freight strategies
    2. Inter-city freight strategies
5. **Government Role in Adoption**
    1. Coordinator, regulator, facilitator, capacity builder
    2. Institutional coordination
6. **Conclusion & Roadmap**

Introduction

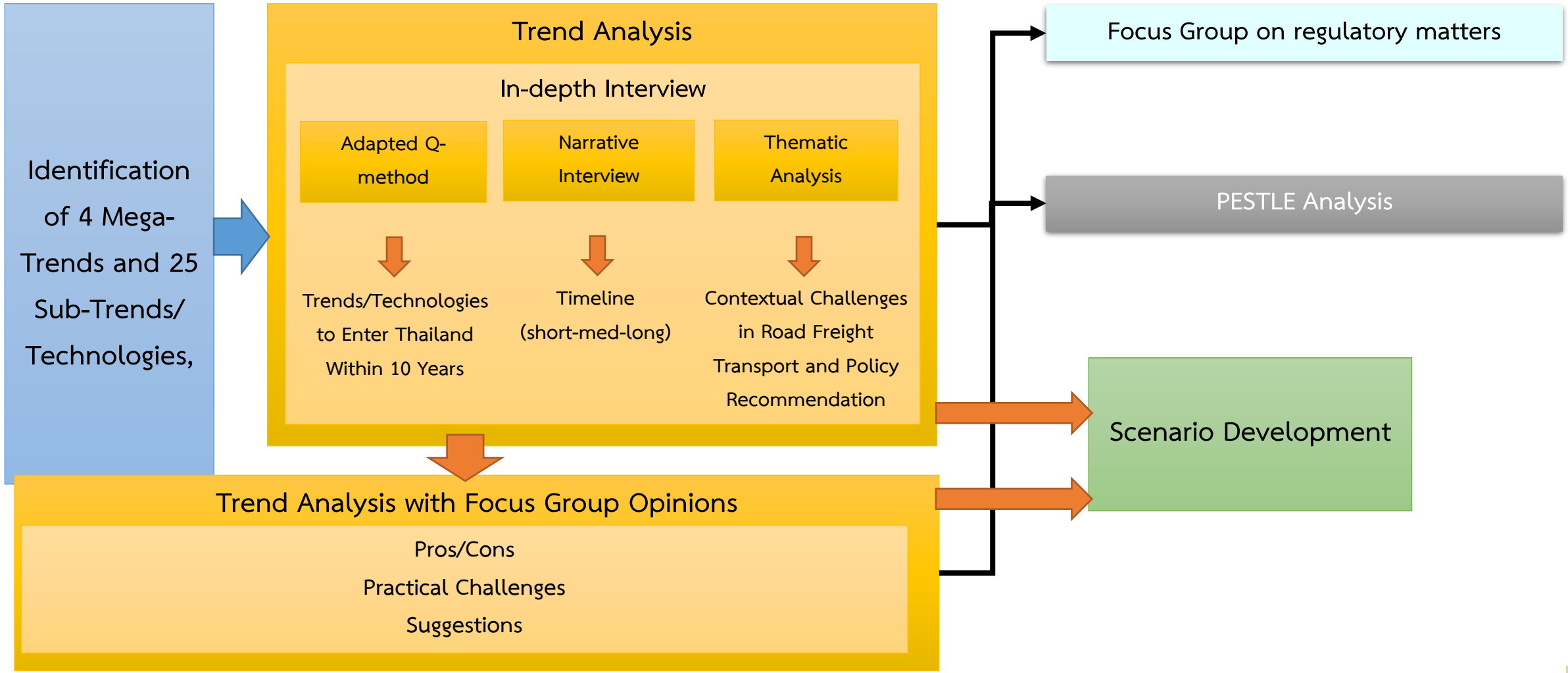
- Thailand’s logistics system is under growing pressure.
- Urbanization and the rise of e-commerce are reshaping how goods flow within cities, while inter-city freight remains essential for connecting economic regions.
- To stay competitive and sustainable, both areas must align with long-term national strategies and green growth policies.

Methodology

We used a mixed-method approach

- National policy review
- Thematic analysis
- PESTLE analysis
- Stakeholder engagement
- Foresight methodology
- MCDA for project prioritization

Research flow



National Policy Review

1.Urban Freight in Thailand is Under-represented in Policy

- Existing policies emphasize passenger transport and inter-city connectivity.
- Issues like last-mile delivery, congestion, emissions, and safety in cities receive limited attention.

2.Inter-City Freight Dominates the Policy Landscape

- National masterplans strongly prioritize inter-city freight corridors, especially linking industrial zones, ports, and borders.
- However, policies remain heavily focused on road, with insufficient integration of rail and multimodal solutions.

3.Regulatory Fragmentation Hinders Effectiveness

- Multiple agencies oversee freight transport, but coordination is weak.
- Urban freight overlaps with municipal authorities, while inter-city freight is under central agencies thus leading to policy gaps.

4.Limited Innovation and Digitalization in Freight Policy

- Few policies directly support adoption of digital platforms, smart routing, or data-sharing systems for freight.
- Urban freight in particular lacks frameworks for regulating e-commerce logistics and new delivery models.

5.Environmental Considerations Remain Secondary

- Urban freight policies rarely address air quality or low-emission zones.
- Inter-city freight strategy mentions “green logistics” but incentives for EV fleets, clean fuels, or modal shift remain weak.

Thematic Analysis

Thematic Analysis

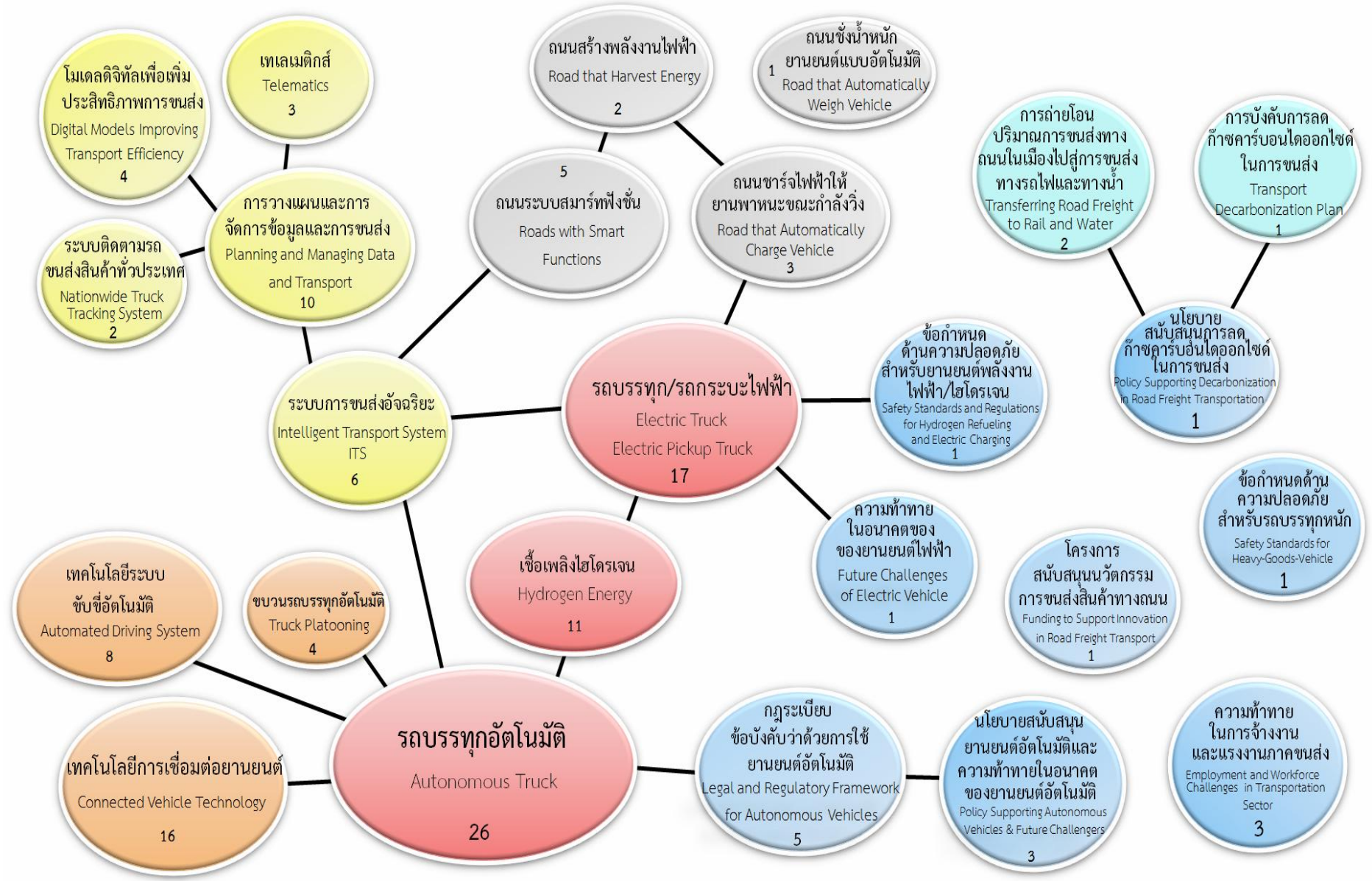
(Braun & Clarke, 2006)

โครงสร้างพื้นฐานทางถนน
(Road Infrastructure)

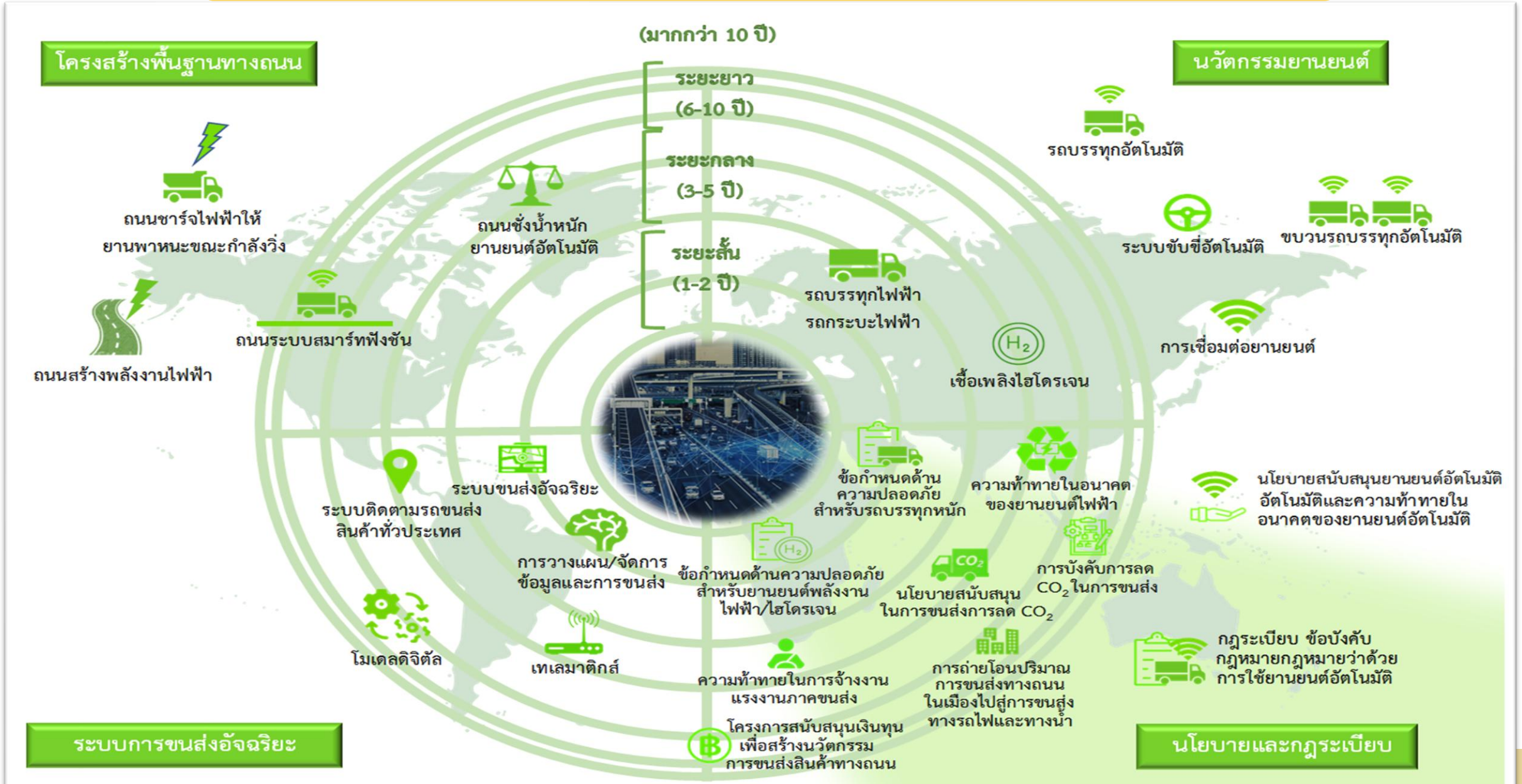
นวัตกรรมยานยนต์
(Automotive Innovation)

ระบบการขนส่งอัจฉริยะ
(Intelligent Transportation System)

นโยบายและกฎระเบียบ
(Policy and Regulation)



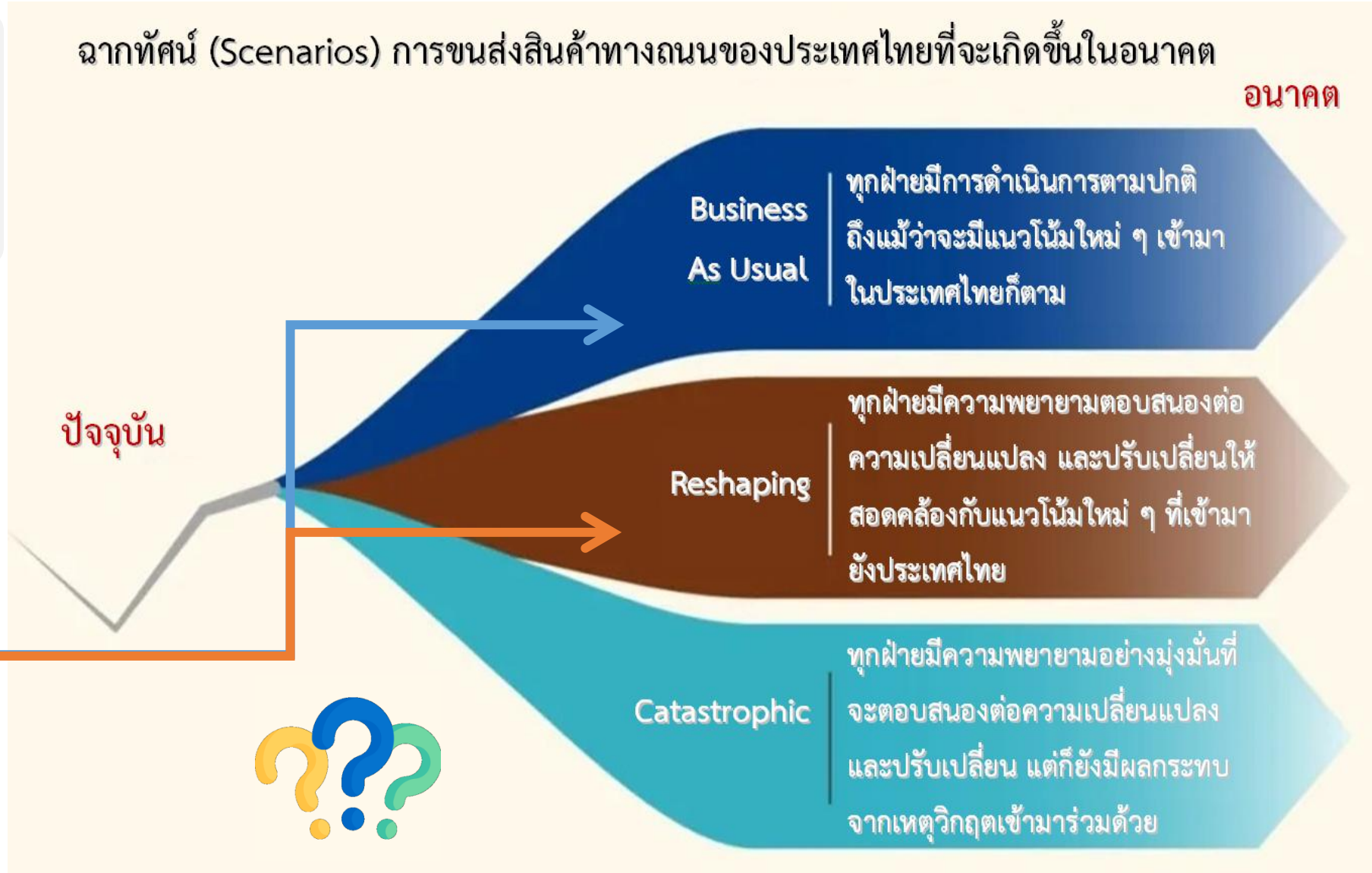
Radar Chart for the next 10 years



Foresight and Scenario Analysis for the Future of Road Freight Transport

Foresight Methodology

- โครงสร้างพื้นฐานทางถนน (Road Infrastructure)
- นวัตกรรมยานยนต์ (Automotive Innovation)
- ระบบการขนส่งอัจฉริยะ (Intelligent Transportation System)
- นโยบายและกฎระเบียบ (Policy and Regulation)



Key issues that impacts freight transport in Thailand

Theme 1:
DLT Job Description

- R&D
- Regulate
- Promotion
- Operator development
- Human Resource Development
- Emergency Planning

Theme 2: EVs และ Alternatives

- Truck standard
- Technical skills of DLT staff
- Environmental Standard
- Safety standard
- Types of vehicles

Theme 3.1: Road-Freight Operator

- Transport technology
- Licensing
- Online freight platforms

Theme 3.2: Road-Freight Transport-Energy

- EVs or alternative power

Theme 4.1: Drivers-safety

- Driver skills

Theme 4.2: Drivers-challenges

- Labor scarce
- Working conditions

Urban Freight in Thailand

Challenges

- Congestion and limited road space.
- High last-mile delivery costs.
- Air pollution and carbon emissions.
- Safety risks for pedestrians and motorcyclists.

Opportunities

- Growth of e-commerce and delivery services.
- Expansion of electric vehicle fleets.
- Development of smart logistics platforms.
- Urban consolidation centers (UCCs).

Inter-city Freight in Thailand

Challenges

- Infrastructure bottlenecks.
- Over-reliance on road transport versus multimodal options.
- Driver fatigue and safety risks.
- Limited integration with digital platforms.

Opportunities

- Expansion of expressways and motorways.
- Digital freight matching platforms.
- Development of multimodal corridors.
- Regional connectivity initiatives such as EEC and GMS.

Policy Directions

Urban Freight

- Encourage more night-time deliveries.
- Develop urban consolidation centres.
- Promote low-emission vehicle fleets.
- Support digital routing and data-sharing platforms.

Inter-city Freight

- Promote multimodal integration.
- Improve driver standards and road safety.
- Invest in smart highway logistics hubs.
- Develop freight corridors linking ports and inland regions.

Government Role in Adoption

Role

- **Coordinator**: align planning and transport.
- **Regulator:** enforce standards on safety and emissions.
- **Facilitator:** enable PPPs and provide incentives.
- **Capacity Builder:** training SMEs and operators.

KSF-Institutional Coordination

- **Key actors:** Department of Land Transport, Ministry of Transport, provincial offices, municipalities, & private sector.
- Collaboration needed to avoid policy silos.

Conclusion and Roadmap

- Methodology ensures evidence-based insights.
- Urban and inter-city freight are dual engines of transformation.
- Government adoption is key to success.
- Roadmap
  - Short-term: pilots and regulations.
  - Medium-term: scaling fleets and hubs.
  - Long-term: integrated smart and green logistics.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