**Freight Transportation Land Use**

The planning paradigm for industrial development has excluded the implications of site selection on the movement of freight to and from a property. This blind spot in land planning has had negative economic, environmental, and social consequences. Ensuring the quality of community life in municipalities, regions, and continents requires thoughtful coordination of land use decision-making with local and national supply chains, freight networks, and industrial systems.

**Core Question:**

**How can we institutionalize integrated planning of land use, freight transportation, and industrial systems among public and private-sector stakeholders?**

**Stakeholders**

* + Citizen
  + Non-industrial business owners and organizations
  + Economic development agencies
    - Public-sector planning agencies
    - Elected officials
    - Industrial facility sponsors
    - Developers
    - Freight transportation companies including:
      * railroads
      * trucking companies
      * martimue users/operators
      * air freight carriers
      * terminal owners/operators, including ports and airports
    - Academic institutions
    - Non-academic professional organizations and associations
    - Environmental groups

***Round 1***

**Current State**

How do the stakeholder groups currently relate to freight transportation land use policies and plans

* Citizens
  + - How are the citizens and community groups aligned or misaligned in regard to planning of land use, freight transportation, and industrial systems?
    - What are their conflicting benefits and concerns?
    - Where is the balance between these potentially conflicting interests?
  + Non-Industrial Business Owners and Organizations (Current)
    - How are non-industrial business owners and organizations aligned or misaligned in regard to the planning of land use, freight transportation, and industrial systems?
    - What are their conflicting benefits and concerns?
    - Where is the balance between these potentially conflicting interests
  + Economic Development Agencies
    - Who are the local economic development agencies whose responsibility should concern comprehensive industrial planning?
    - To which agendas are these organizations beholden?
  + Public-Sector Planning Agencies
    - What is the land use-related governing and planning system in each U.S. and Mexican state and Canadian province?
    - Which are the governing agencies at each level (local, county, state/province, regional, national) with vested interests and/or authority in industrial development and freight transportation reviews and approvals?
    - What are the systems in place for these reviews and approvals?
  + Elected Officials
    - Who are the constituencies dictating an elected official’s obligations and decision-making process
    - What powers do elected officials possess relative to the governance of land planning and freight transportation?
    - What are the elected official’s agendas, and how does effective change in freight transportation and land development policies further those agendas?
    - What are the constituencies’ respective agendas, and how does effective change in freight transportation and land development policies further those agendas?
    - How are the elected officials and their constituencies’ respective agendas aligned?
    - If misaligned, what is the balance between the two in the context of land development and freight transportation?
  + Industrial Facility Operators
    - What is the current sentiment among operators about land planning, freight transportation and industrial systems?
    - How does current land planning, freight transportation, and industrial systems benefit industrial facility operators?
    - How does current land planning, freight transportation, and industrial systems hinder or hurt industrial facility operators?
  + Developers
    - What are the costs associated with incorporating rail service into industrial development?
    - What are the calculable economic benefits of freight-conscious land development?
    - What other areas of expertise need to be integrated into freight transportation land use planning?
  + Freight Transportation Companies, including Railroads, Trucking Companies, Maritime Users/Operators, Air Freight Terminal Owners/Operators
    - What is the current status of truck routes and rail lines?
    - Do they need to be upgraded or expanded?
    - How do existing transportation arteries meet the new capacity needs, and what new investments are called for?
  + Academic Institutions
    - What are the main topics and themes related to land planning, freight transportation, and industrial systems being taught in today’s academic institutions?
    - Which academic institutions are leaders in the fields of land planning, freight transportation, and industrial systems?
    - Under which disciplines are the study of land planning, freight transportation, and industrial systems covered?
  + Environmental Groups
    - * What is the current impact of land planning, freight transportation, and industrial systems on the environment?
      * Which activities related to the above topics pose the greatest threat to the environment?

***Round 2***

**Future State**

What concerns do each stakeholder group have that should be addressed in comprehensive planning?

* + Citizens
    - * How will we ensure that changes in freight transportation and land use policies in industrial land development do not negatively affect health,

quality of life, and fairness while maintaining respect for history and culture?

* + - * What benefits are derived from new or expanded industrial facilities, including jobs and community tax revenues?
  + Non-Industrial Business Owners and Organizations (Current)
    - * What are the ramifications of including freight logistics to and from properties in industrial land planning?
      * Who will benefit?
      * Who will be hurt?
      * What are the ramifications of increased rail activity on the local economies through which rail passes?
      * What is the calculable economic loss local businesses will face with fewer trucks and drivers passing through their region?
      * How will local non-industrial businesses benefit from freight-conscious land planning and development?
  + Economic Development Agencies
    - * How will the industries they are obligated to support be harmed by changes in land development and freight transportation?
      * How can this be minimized or reconciled?
      * How will changes in industrial land development and freight transportation further an economic development agency’s goals?
  + Public-Sector Planning Agencies
    - * What would be needed to consolidate and streamline these reviews and approvals without sacrificing jurisdictional integrity and sustainability goals?
      * What steps can be taken so that integrated land use and freight transportation planning can become a broadly accepted policy?
      * How can the life-cycle cost impacts be integrated into assessing the income and revenue benefits?
      * What steps can we take to have transportation land use plans become a fully integrated component for new freight-related development?
      * What land use zoning practices do we want to initiate that preserve land adjacent to freight corridors and facilities for freight-related development?
      * Who are the allies for developing a program of national preservation of property adjacent to rail rights-of-way for future rail development?
  + Elected Officials
    - * Will there be opposition or backlash to an elected official leveraging their powers to address land development and freight transportation?
      * If so, how can it be minimized or addressed?
      * What vehicles must the elected official use to promote change? E.g., Legislation, formation of a committee, public speech?
      * How can effective change in freight transportation and land development policies be measured so that officials can clearly share their results with their constituency?
  + Industrial Facility Operators
    - * How will changes in freight movement benefit operators and shareholders?
      * How will any and all changes affect the profit margin?
      * How long will a change in facility operations take, and at what cost?
      * How can existing operations be adjusted for more thoughtful freight transportation while limiting downtime and cost?
      * Who is responsible for these costs, and is assistance available?
      * How can organizations convey the value of freight-conscious land development policies and the subsequent effects to shareholders?
      * What opposition might operators face if freight-conscious land development policies result in systemic changes to facility operations?
* If so, how can this be minimized or reframed?
  + - * How will changes to freight plans support the economic driver of business?
      * How will changes to freight plans alleviate a burden on business?
      * How can comprehensive thinking in land development and freight transportation, including rail, alleviate an economic burden and enhance land values and business results?
  + Developers
    - * How can we scale up consciousness and expertise in freight transportation land use planning throughout the development community?
      * How can industrial developers, investors, and financial institutions be incentivized to collaborate with communities and all stakeholders to integrate freight transportation land use planning into master plans?
      * How can we dispel the thinking that freight-conscious land planning policies will limit the amount and viability of developable land and, in turn, economic opportunity?
      * How can partnerships be structured to satisfy the needs of all stakeholders and maintain core values and goals of sustainability?
      * How will freight-conscious land development policies affect development timelines and costs?
  + Freight Transportation Companies, including Railroads, Trucking Companies, Maritime Users/Operators, Air Freight Terminal Owners/Operators
* What new freight transportation arteries are needed?
* How long will it take for supply chains to adjust to the increased/decreased load
* What impacts will changes in freight transportation and land development policies have on the current infrastructure?
* What are the impacts of new industrial development freight traffic on existing operations for railroads?
* How can existing service levels be maintained or improved with added traffic?
* How can proximity conflicts between industrial and non-industrial development and uses be resolved?
* What improvements to the current rail line banking system would enable the lines to be reinitiated in the future?
* What steps can be taken to stimulate short line and switching railroads to partner with communities to create rail-served industrial developments?
* How could freight-conscious land development result in a loss of business for certain organizations?
* If so, which organizations?
* What organizations will benefit?
* How will these organizations benefit?
* Will there be an increase in the need for specialized labor?
* If so, how will the labor needs be met?
* What jobs are at risk?
  + Academic Institutions
    - Which academic institutions could be valuable partners in advancing “freight transportation land use” as a planning discipline?
* What needs to occur to integrate these two disciplines into one? Which public and private non-academic organizations and associations can become

valuable partners in creating “freight transportation land use” as a discipline in the field and academia?

* + - * How can institutions adjust supply chain management, economics, finance/real estate curriculums to incorporate freight-conscious land development?
      * How can institutions effectively teach this novel concept?
      * How will students be better equipped to secure a job in their desired field with an understanding of freight-conscious land development?
      * Where will institutions acquire new educational material, and who will author it?
  + Environmental Groups
    - * How can freight transportation land use planning minimizes the impact of the movement of goods on the natural environment?
    - How can our industrial supply chains be optimally localized and planned from production to consumption to be environmentally conscious?
    - What are the environmental implications of this level of supply chain planning on land use and transportation planning?
    - How can the integration of land use and freight transportation planning resolve the comparative pros and cons of each of the modal choices, i.e.,

marine (ocean and inland waterways), railroads, trucks, and air, and address their respective ecological drawbacks?