Urban Freight and Logistics

ABSTRACT

Brief summary for this chapter describing why an Urban Freight and Logistics blueprint is needed, what you will find discussed here, quick highlight of best management practices (themes) and overview of future needs/next steps. Could also highlight the main contributors here.

1 Introduction

- High level overview of need, explain why we need to build a blueprint for Urban Freight and Logistics projects
- Overview of current state (trends)
- Stakeholder definition?
- Vision for blueprint
- Potentially introduce some cross-references with other chapter topics here?
- Overview of who helped create this content
- Outline the rest of the chapter

2 Scope and Definitions

- Definition of Urban Freight and Logistics
- High Level diagram showing complexity of market sector
- High level description of Urban Freight and Logistics classifications
    - Policy, logistics, Technical
    - Multi-modal, intermodal, supply chains, 1st/last "50
- Trends - Emerging Goods Movement

3 Challenges and Opportunities

Describe impacts and challenges. How can a blueprint for Urban freight and logistics, including innovative solutions and advanced technologies, be used to address these challenges.

- Safety
    - Truck Safety
        - Connected Vehicles
        - V2V safety apps
        - Dynamic speed limits
        - Dynamic truck restrictions
    - Geometric Design
        - At Grade Rail Crossing
        - Curve Speed Warning
        - Overheight Detection
    - Weather-related Challenges
        - Road Weather Operations
        - V2I connectivity to support a flexible range of services that improves safety and mobility for heavy vehicles.

- Congestion

- o Scheduling and Logistics
- o Freight-Specific Dynamic Planning and Performance
- o Drayage Optimization (Seattle example)
  - Seeks to optimize truck/load movements between freight facilities.
  - Uses travel information and port terminal conditions to assign individual trucks with "best time" windows for pick-up or drop-off so that they can optimize operations.
- o Off-Peak / Overnight Deliveries
- o Consolidation Centers
- o Advanced Freight Traveler Information Truck-specific 511 Page
- o Dynamic Routing
- o Traffic Signal Operations
- Parking
  - o Urban Parking
    - Dynamic Truck Parking
    - Smart CV Truck Parking
  - o Long Haul Parking
- Environment
  - o Eco-driving
  - o Catenary Systems

4 Urban Freight & Logistics Project

4.1 Overview
- Introduce the solutions presented at the Transportation SuperCluster workshop

  a. THE PROBLEM | Use Case identification: Determine the root of the issue city/community is facing and if sensors are the best method to solve the issue

  b. THE SOLUTION | Identify the right solution that meet your needs based on the use cases identified.

  c. THE IMPLEMENTATION STAGE

4.2 Problem Identification
- o Description of this stage
- o Barriers/Solutions (Include a table specific to this stage)

4.3 Project Definition
4.3.1 Description of project and subsequent stages

4.3.2 Barriers/Solutions

4.3.2.1 Case Studies

5 Goals of the Urban Freight Project Blueprint

- How the Urban Freight Project Blueprint will help the GCTC Transportation SuperCluster
- How the Urban Freight Project Blueprint will help the other GCTC SuperClusters
- How the Urban Freight Project Blueprint will help the overall community & marketplace

6 Next Steps and Conclusions

- Summarize best management practice themes for developing and implementing a Urban Freight and Logistics project
- Discuss cross-references with other chapters here.
- Potentially discuss cross-references with other SuperCluster topics as well if helpful
- Summarize next steps and research or pilot project needs
- Reiterate broad goals and benefits from deploying Urban Freight and Logistics networks
- Describe how this blueprint + future needs identified here can help facilitate such goals and help cities/communities move into pilot stages and beyond to full Urban Freight and Logistics

7 Next Steps and Conclusions

- Gaining Consensus
- Building a critical mass
- Launching a community/project
- Initial technical goals
- Sustaining community