Feasibility of a High-Speed Intermodal Corridor for Port of LA/LB

Prepared for:
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Feasibility of a High-Speed intermodal Corridor for Port of LA/LB
Task 3.4   Project Plan Presentation

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Center for Commercial Deployment of Transportation Technologies

RAPID CONTAINER MOVER

CCDoTT funds COE Research

- Fast Ship CFD (Mechanical and Aerospace)

- Container Security Targeting Algorithms (Computer Science)

- Distributed Inventory Management Chipset (Electrical Engineering)

- Rapid Container Mover (**All** Departments)

Problem: Port at Capacity?

- No more room for container storage
- Trucks with containers congest highways intended for commuters and local deliveries
- Trains with containers compete with bulk materials for rail space
- Pollution jeopardizes quality of life at port and along transport corridors
- Operational constraints are beginning to restrict capacity

What is the RCM?

- State-of-the-Art Container Conveyor Belt from the Port to Victorville Inter-modal

- Utilizes Frictionless Magnetic Bearing Technology (MagLev)
  - Lowest Possible Operating Costs
  - Highest Possible Speed
  - Zero air and noise pollution
  - Proven, Existing Technology

Rapid Container Mover (RCM)

- Fast up to 310 mph
- Non – Polluting
- Efficient use of power
- Quiet
- Can Climb 10 Degree inclines (El Cajon pass)
- Economical to Operate
- Raised Rail, Small Footprint
- Off -The - Shelf Technology

Current Approaches Mitigate One Problem But Exacerbate Others – NOT SOLUTIONS

□ **Freeways expansion**
    Relieves congestion

Increases pollution and community issues

□ **24/7 gate operation**
    Distributes traffic flow

Community and Small Businesses issues

□ **Pollution ceiling**
    Limits Pollution

Economic Impact

□ **Expand port**
    More Throughput

Lack of real estate

Increase of pollution and community issues

□ **Expand Rail System**
    Greater Capacity
      ■ Adding rail lines
      ■ Improve feeder systems

Lack of real estate

feeder system problem

Constraints on freight use, speed, buffer areas

Land usage conflicts

CCDoTT's **R**apid **C**ontainer **M**over (RCM) IS A SOLUTION

Design Objective is 10 million TEU's per Year

- Minimizes Required Port Space
- Reduces Highway Congestion and Repair
- Opens Existing Rail for Bulk and Military Surge
- Supports Community Issues
- Reduces Pollution
- Accommodates Port's Projected Growth Without Increasing Port Real Estate
- Complements All Other Approaches

RCM Solution to Key Problems

- Removes Containers from Port Quickly, Reducing Storage Requirements – "On-dock RCM"
- Removes 70% of Today's Container Traffic from LA Freeway
  - Reduces Future Freeway Expansion Costs
  - Alleviates Commuter and Military Surge Congestion
- Supports Pollution Below Legislated Levels
- Increased Speed and Capacity Accommodates Port Growth, With Minimal Impact on Increased Infrastructure Cost and Footprint

How Does RCM Work?

- Utilizes Existing TransRapid Inc. Technology Proven in Germany and China.

- Incorporates CCDoTT's EMT (Efficient Marine Terminal) and IIC (Intermodal Interface Center) Concepts

What is CCDoTT Doing on RCM

- First Order Assessment of Economic Feasibility

- Identify Stakeholders and Garner Community Support

RCM Economic Assessment

- ☐ OrangeLine Authority Will Provide:
  - ■ Projected Rights of Way for RCM
  - ■ Preliminary Design and Costs of RCM from Modifications to Existing TRI Systems

- ☐ Automation Associates Will Provide:
  - ■ 1st Order Model of Port of LA/LB
  - ■ 1st Order Model of Victorville Intermodal
  - ■ Model of Existing and Projected Corridor (Road, Rail, and RCM) between Port and Intermodal
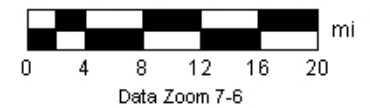
- ☐ Manalytics Will Provide:
  - ■ Data on Existing and Projected Container Traffic into Port and on to Both Local and Inland Intermodal Destinations
  - ■ Cost of Container Movement through Corridor by Various Means

- ☐ CSULB College of Engineering Will Integrate the Information to Form Economic Assessments of RCM Solutions To Port Issues

Proposed Freight Maglev Routes
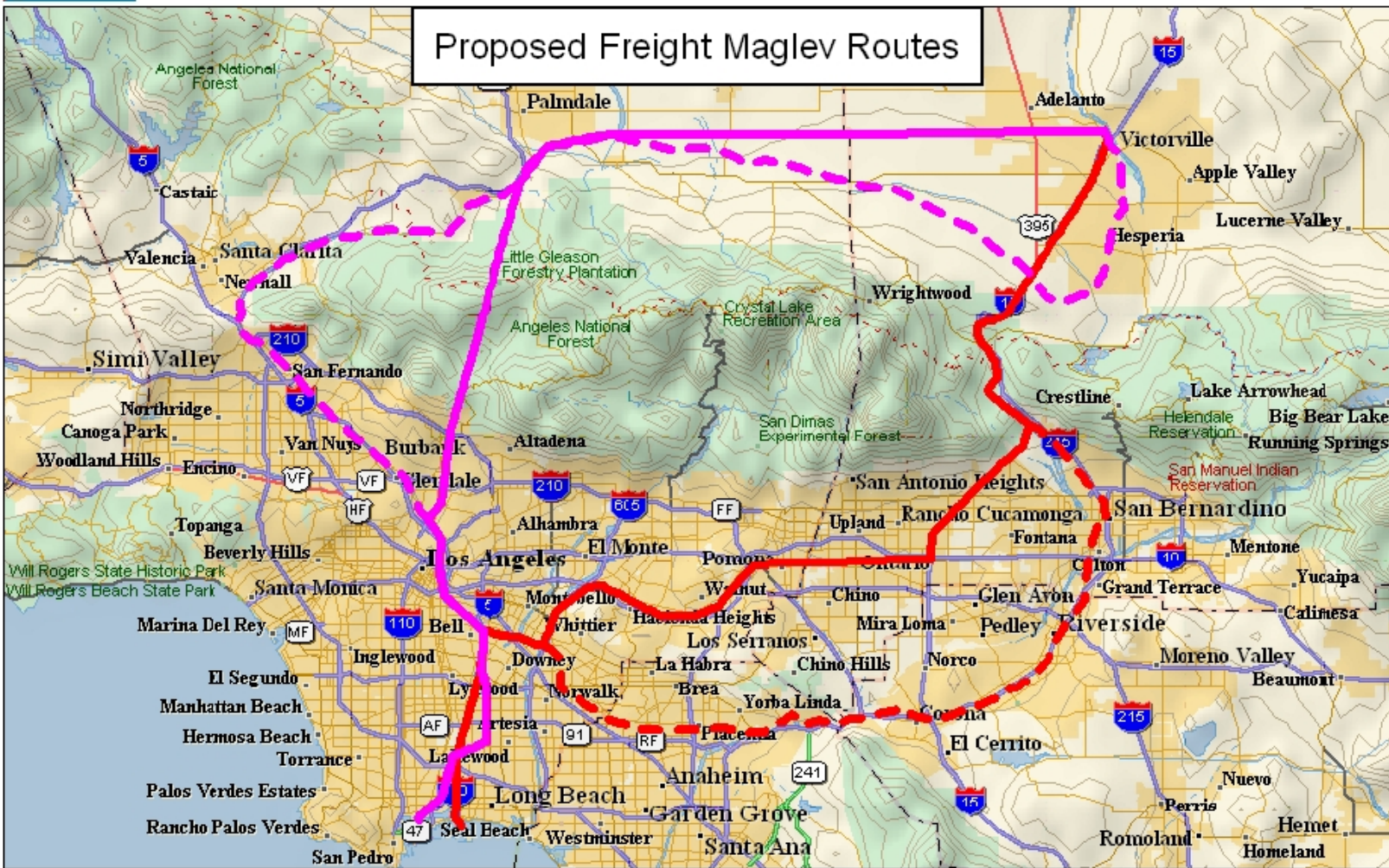
Community Support

- Adapted Presentations made to Potential Stakeholders and Interested Parties

- Presentation Continuously Updated to Include most Recent Developments

- Completed Project Presentation with Economic and Engineering Feasibility Provided for Public Evaluation

- Propose CSULB sponsored PTS (Port Transportation Symposium) inviting local state and federal officials concerned with port operations

Role of the College of Engineering

- ☐ Act as a Concept Clearing House for the Diverse Interests in our Community

- ☐ Provide Unbiased Assessment of Technologies that Benefit the Local Economy

The Way Ahead

- University Support

- Determine Key Support Required

- Brief Key Individuals

- If 2004 Study Supports Feasibility, find Funding for Detailed Phase of Study

- Obtain Local, State and Federal Government Backing/Support

CCDoTT Southern California Freight initiative: Transrapid Maglev System
Inland Empire Route: Track Scheme /Propulsion Layout (schematic layout, not to scale)