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

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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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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
  - Lack of real estate
  - feeder system problem
  - Adding rail lines
  - Constraints on freight use, speed, buffer areas
  - Improve feeder systems
  - Land usage conflicts
CCDoTT’s Rapid Container Mover (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)