How Does a Port's Capital Investment Affect Local Economic Development ?

港湾施設の機能高度化による地域経済成長への影響

Policy Considerations to Improve Freight Operations

輸送活動の改善施策についての検討

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Objectives of the Study

- ✓ Analyze changes in the relationships between a port's capital Investment and local benefits

  港湾投資と地元利益との関係の変化分析

- ✓ Policy recommendation to improve freight movement facilities related to port.

  貨物流通施設改善のための提言

Purpose of Presentation

- Changes affecting port investment needs and priorities.　港湾投資に影響する変化
- Study's findings on job benefit impacts of port activities using case studies of the ports of Los Angles, Long Beach and Seattle.
  雇用効果のケーススタディ
- Policy implications for freight facilities investments.
  貨物流通施設投資に対する政策

Focus Points of the Study

- Only container transport facilities.
  コンテナ輸送関連施設
- Only ports which functioned as transport center for Exports and Imports cargoes.
  外貿貨物センターとしての港湾

I.

What Has Changed in Maritime Transport ?

海運分野において何が変化しているか？

Key Factors

- Increased Globalization of Trade
  貿易のグローバル化
  - Complexity of freight movement and shipping patterns, especially container cargo
- Just-in-time Transport System
  ジャストインタイム輸送
  - Demand for time-based competition
- Shipping Line Strategies 船社の戦略
  - Alliance and rationalization
  - Deployment of larger capacity vessels
  - Port call rationalization—fewer ports-of-calls

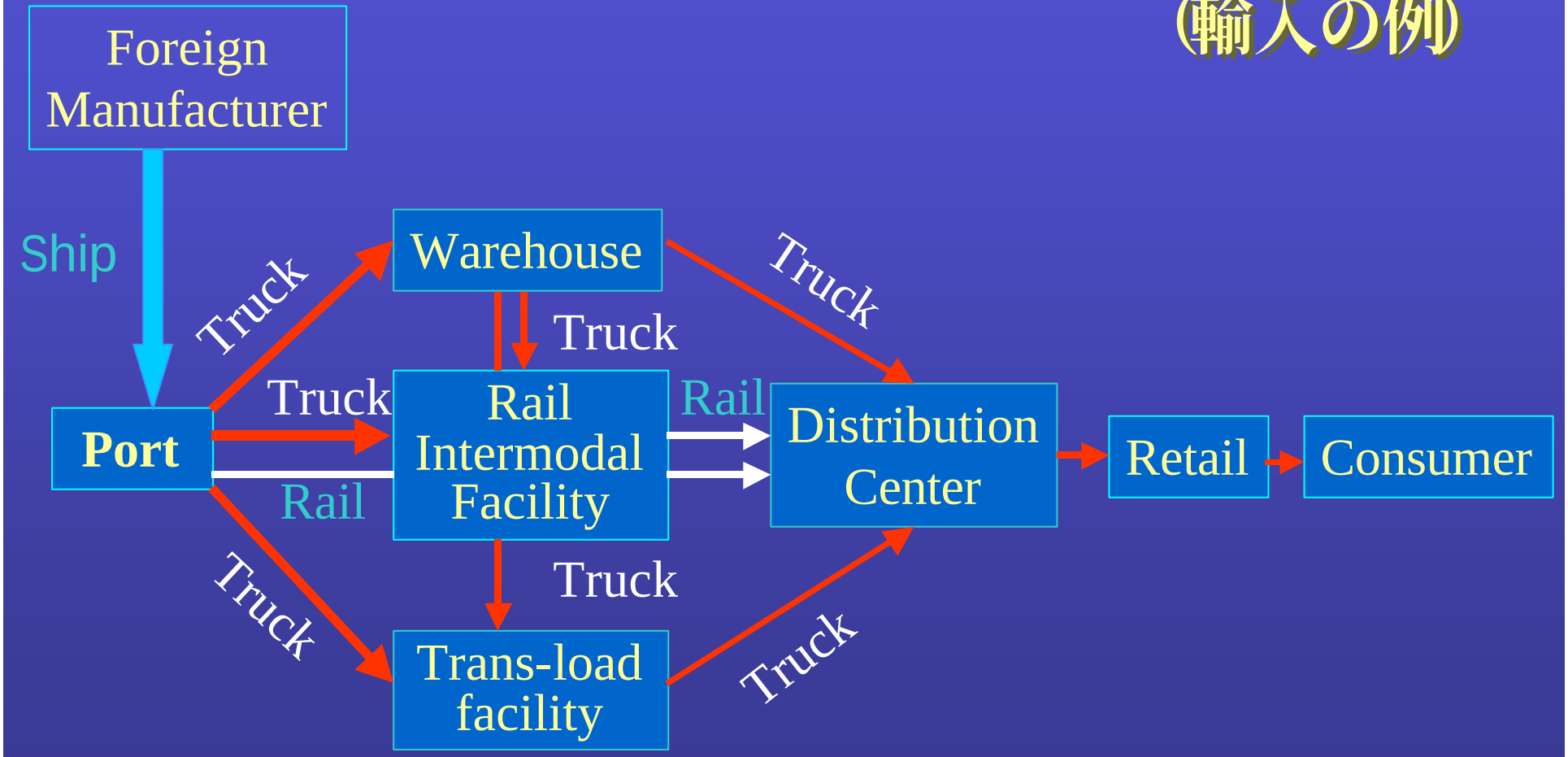
Port Pressures 港湾への圧力

Vast Investment Needed, but

- Space limited
- Fund availability
- Environmental constraints

Freight Movement Flow Chart (Import-based model)

貨物の動きフローチャート (輸入の例)



Landsite Operations

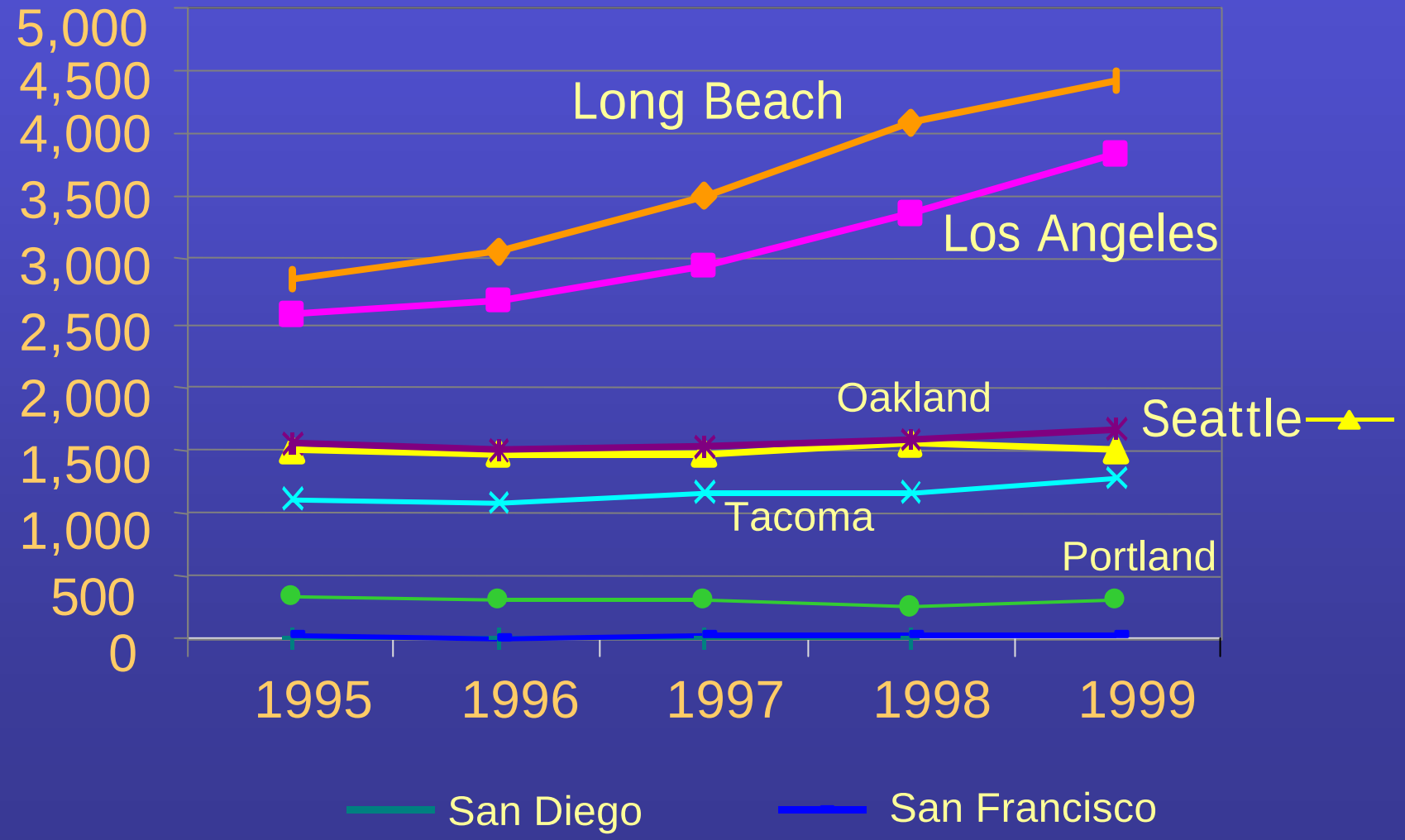
II.

Local Economic Impacts
地元への経済的影響

Do local economic benefits increase proportionally with the level of port activities ?

港湾貨物取扱量に比例して地元経済利益は増加するか？

Volume Handled at Major West Coast Ports (1,000 TEUs)　西海岸主要港湾の貨物取扱量



Summary of Impact Categories 影響の分類

Main Category	Sub-Category	Examples of Employment impact
▪ Direct 直接	• Direct economic impacts 経済効果	• Additional jobs generated by the increased in port cargo
▪ Indirect 間接	• Multiplier effects of direct impacts 乗数効果	• Jobs from retail sales to new employees
	• Related user job impact 利用者の雇用効果	• Jobs with firms using a port taking advantage of greater accessibility (to/from other region)
	• Induced effects 誘発効果	• Job from retail and service multipliers from these firms

Impact Study Method

1. Establish context
状況把握

Literature review:
- economic policy
- development context
- labor force/residential

文献調査

2. Qualitative impact assessment
効果の質的評価

Local/regional firms interview

インタビュー

3. Quantitative impact assessment
同上

Theoretical basis-transport costs as % of production costs

輸送コストの割合（対生産コスト）

Study Findings (1)　所見 (1)

- The magnitude of job benefits generated principally by:　雇用効果の大きさ
  - Indirect jobs　間接雇用による
  - Induced or port related users jobs　港湾利用者の雇用による
- Trend in decreased direct jobs (local job), especially terminal jobs due to containerization technologies　ｺﾝﾃﾅ化による直接雇用の減少

Change in Job Impact　雇用変化への影響
Port of Seattle (1993 vs. 1999)　シアトル港

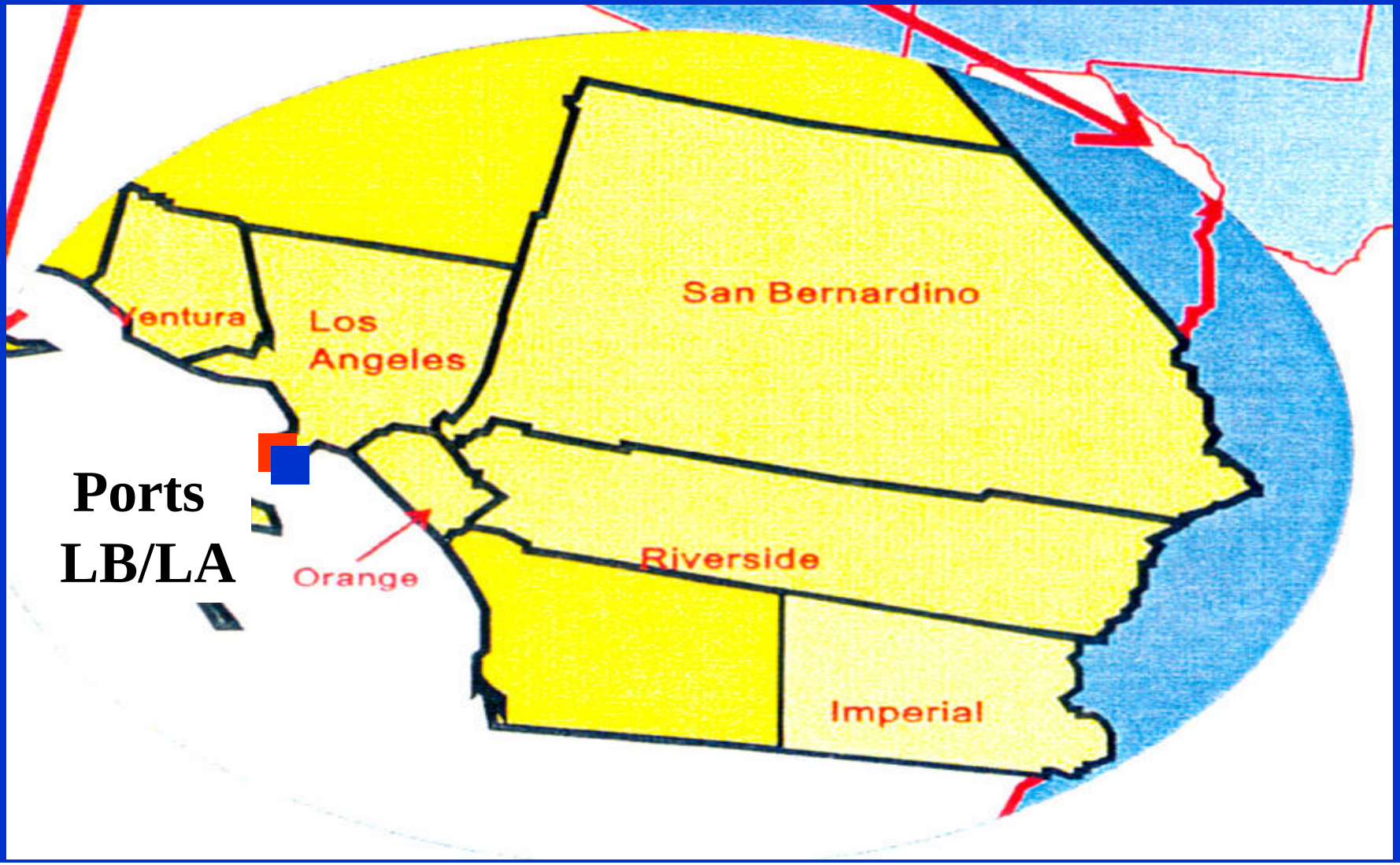
	1993	1999	Change	% Change
TEUs	1,151,405	1,490,048	338,643	29%
Job by Category				
•Direct	6,867	7,489	622	9%
•Multiplier	3,353	5,114	1,761	52%
•Induced	2,500	5,910	3,410	136%
•Related user jobs	51,704	93,200	41,496	80%
Total job benefits	64,424	111,713	47,289	73%

雇用総効果

Study Findings (2)　所見 (2)

- Broader geographic dispersion of economic benefits generated by port's activities
  港湾活動による経済効果の地理的広がり
- "Leaking" of a significant portion of local economic benefits to other regions
  地元経済効果の他地域への「漏出」

5 Counties of Portt of LA/LB Region
ロサンゼルス・ロングビーチ港周辺地域

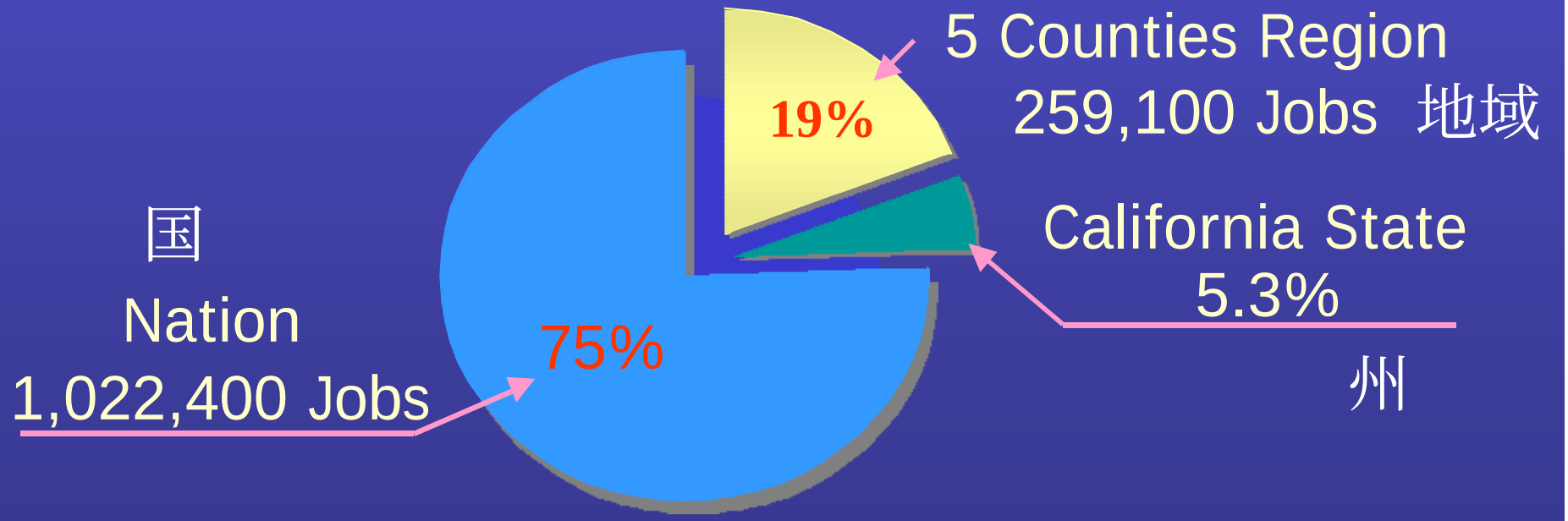


Job Benefits of Ports of LA/LB by Geographic Area (1987) 地理的雇用効果 (ﾛｻﾝｾﾞﾙｽ･ﾛﾝｸﾞﾋﾞｰﾁ港)

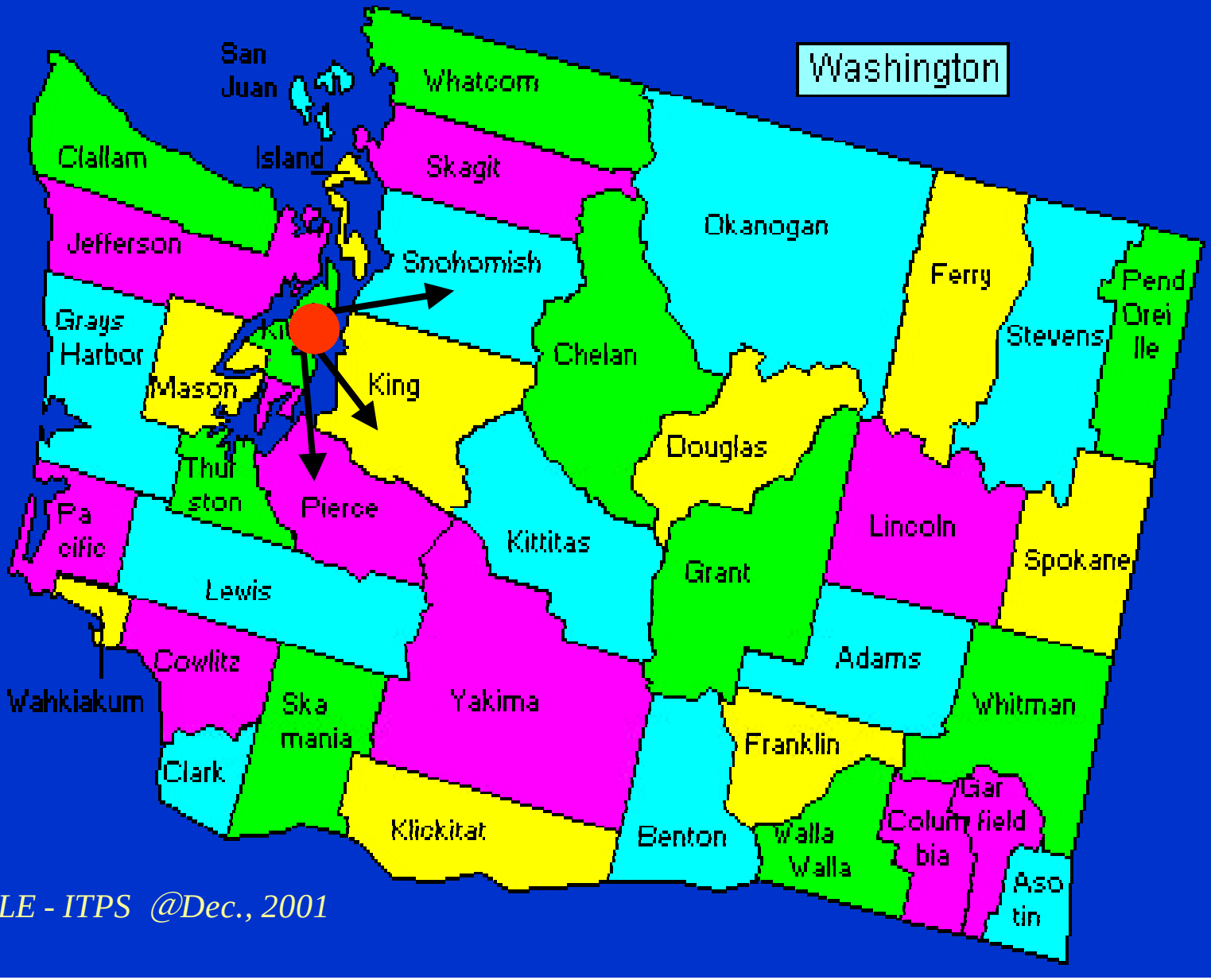
Area	Jobs		
	Total	%	
Local LA County (local)	401,848	24%	35%
Region Excl. LA (5 counties)	185,914	11%	
California State, Excl. 5 Counties	98,609	6%	
Nation, Excluded CA	1,016,345	60%	

Job Benefits of Los Angeles Port by Geographic Area, 1996
地理的雇用効果 (ﾛｻﾝｾﾞﾙｽ港)

Job benefits: **1,353,500 jobs**
雇用効果



Seattle Port' Region シアトル港周辺地域



Distribution of Direct Jobs by Place of Residence, Port of Seattle

直接雇用の労働者の居住地分布(シアトル港)

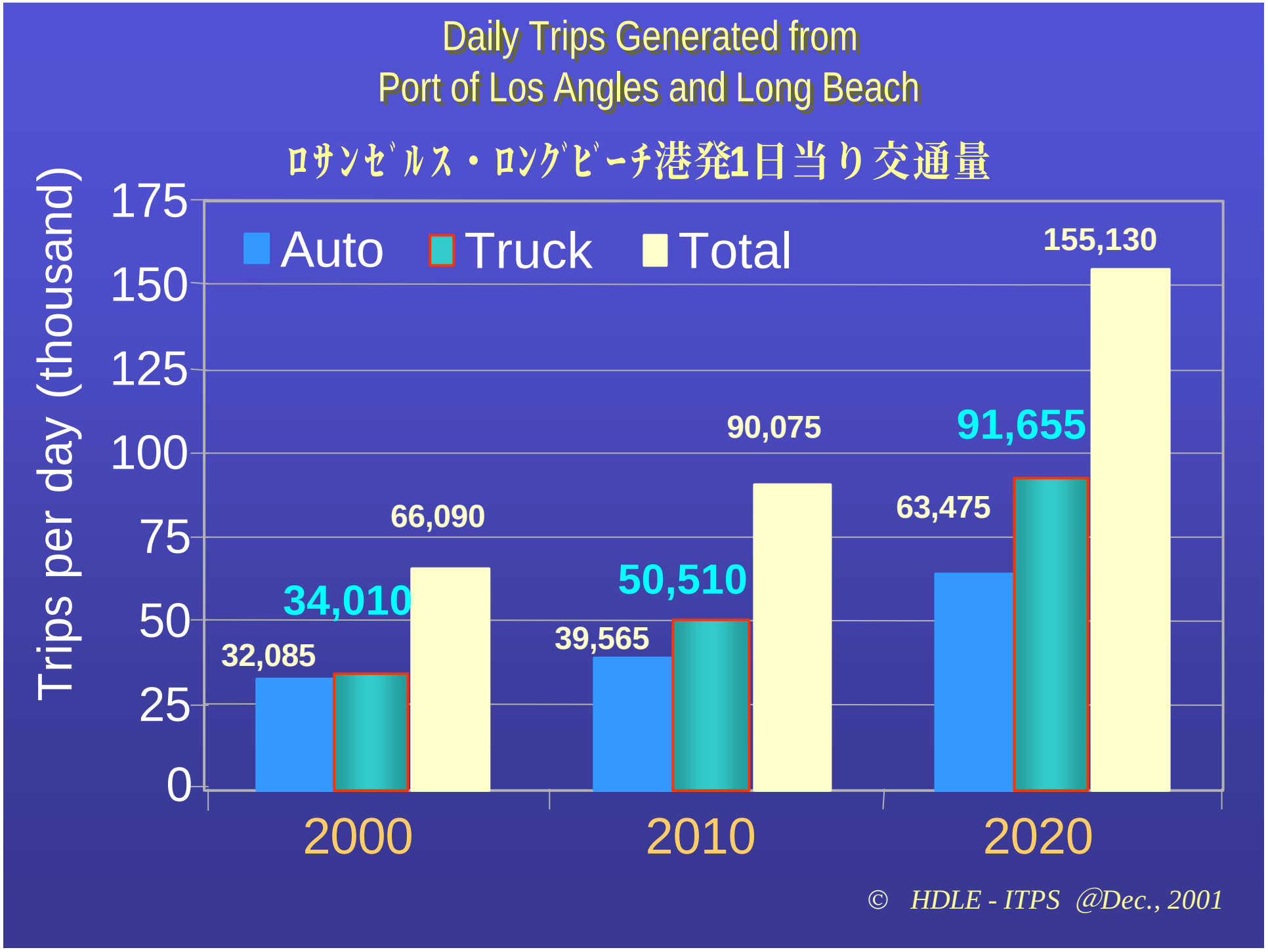
Area	Direct Jobs	% 1999	% 1993
King (local)	7,240	67	82.5
Snohomish	1,395	13	2.1
Pierce	1,248	12	11
WA and Nation	898	8	4.37
Total	10,779	100%	100%

Study Findings (3)　所見 (3)

- Increased road traffic (truck, rail trips) affecting local community environment
  道路交通量増加による地元環境への影響

- Congestion at local arterial roads.　幹線道路混雑
- Heavily used of public road (safety issue)　安全問題
  - e.g. on 43km of Interstate Freeway I-710 in 2000: 35% truck involved accidents
- Detrimental local air quality　大気の悪化

Inter-state Freeway I-710　高速道路I-710


Daily Trips Generated from
Port of Los Angles and Long Beach
ﾛｻﾝｾﾞﾙｽ・ﾛﾝｸﾞﾋﾞｰﾁ港発1日当り交通量
Trips per day (thousand)
175
150
125
100
75
50
25
0
Auto
Truck
Total
32,085
34,010
66,090
39,565
50,510
90,075
63,475
91,655
155,130
2000
2010
2020
© HDLE - ITPS @Dec., 2001

Truck Waiting Time by Transaction
(Survey in 2000)　トラック待機時間

Waiting time	Percentage of Occurrences (%)		
	Import	Export	Empty
10 hours +	0.03	0.00	0.00
7 to 9:59 hours	0.41	0.00	0.00
5 to 6:59 hours	2.56	0.20	0.48
4 to 4:59 hours	3.59	0.61	0.48
3 to 3:59 hours	10.06	1.64	1.72
2 to 2:59 hours	26.59	5.74	4.32
Less than 2 hours	56.76	91.81	93.00

Local Environmental Quality 地元環境の質

Idle Emission Rates by USEPA アイドリング排出ガス

Idle Emission Rates (grams per hour)			
HC	CO	NOx	CO2
44	247	396	29,687

Idle Emission Resulting from Truck Waiting at Ports of LA/LB in 1999 (million of grams)
待機トラック排出ガス

HC	CO	NOx	CO2
165.5	929.3	1,489.9	111,695.4

Key Summary: まとめ

- A trend to disperse port and port related intermodal facilities, and a need to increase connectivity and accessibility to/from a port.港湾・ｲﾝﾀｰﾓｰﾀﾞﾙ施設の分散
- Port is local, but its function and economic contribution are increasingly at regional and national levels - loss for local community. 地元でなく地域・国家的な効果
- Increase local environmental challenges.
  環境への取組

Conflict of Interests and local opposition!
利益と地元反対との対立

III.

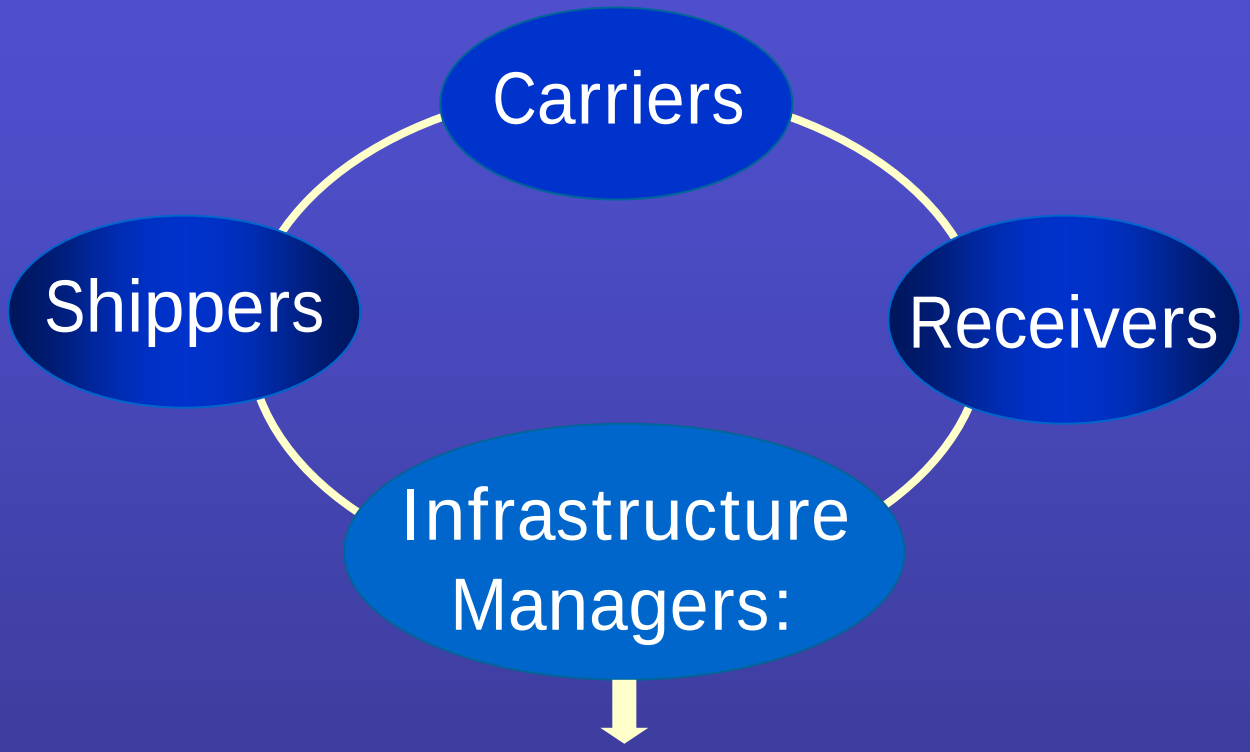
Policy Implications for Freight Transport Facility Investments

貨物流通施設投資に対する政策

Policy Implications 政策課題

- Increasing demand for ports to invest in multi-jurisdictional upstream freight improvement projects
  多地域をカバーする港湾投資需要の増加
- Collaborative and coordinated developments
  共同・協調した発展
  - Joint infrastructure planning
  - Multi-level funding:
    private-public, locals-states-national
  - Joint powers administration
  - Shared data and research

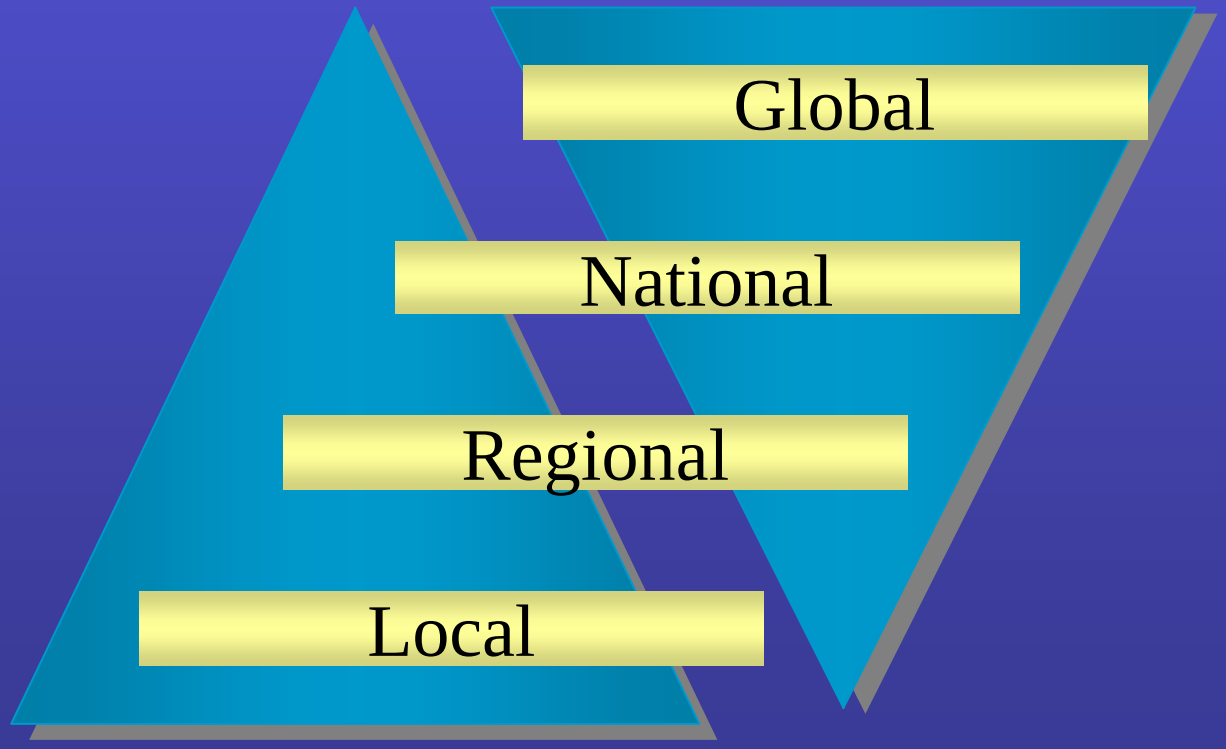
Freight Operation Players 貨物流通関係者



- State and Local DOTs
- Port and Terminal Owners and Operators
- Railroads, etc.

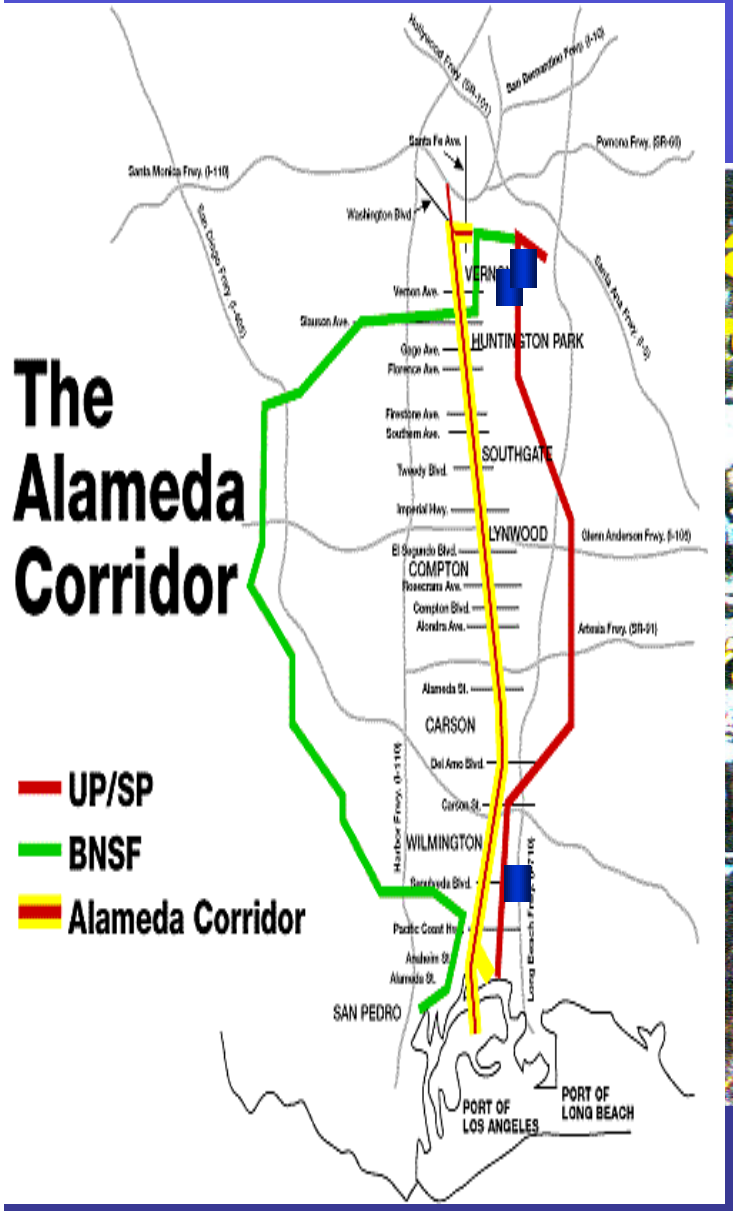
Freight Transportation Perspectives
貨物流通についての様々な視点

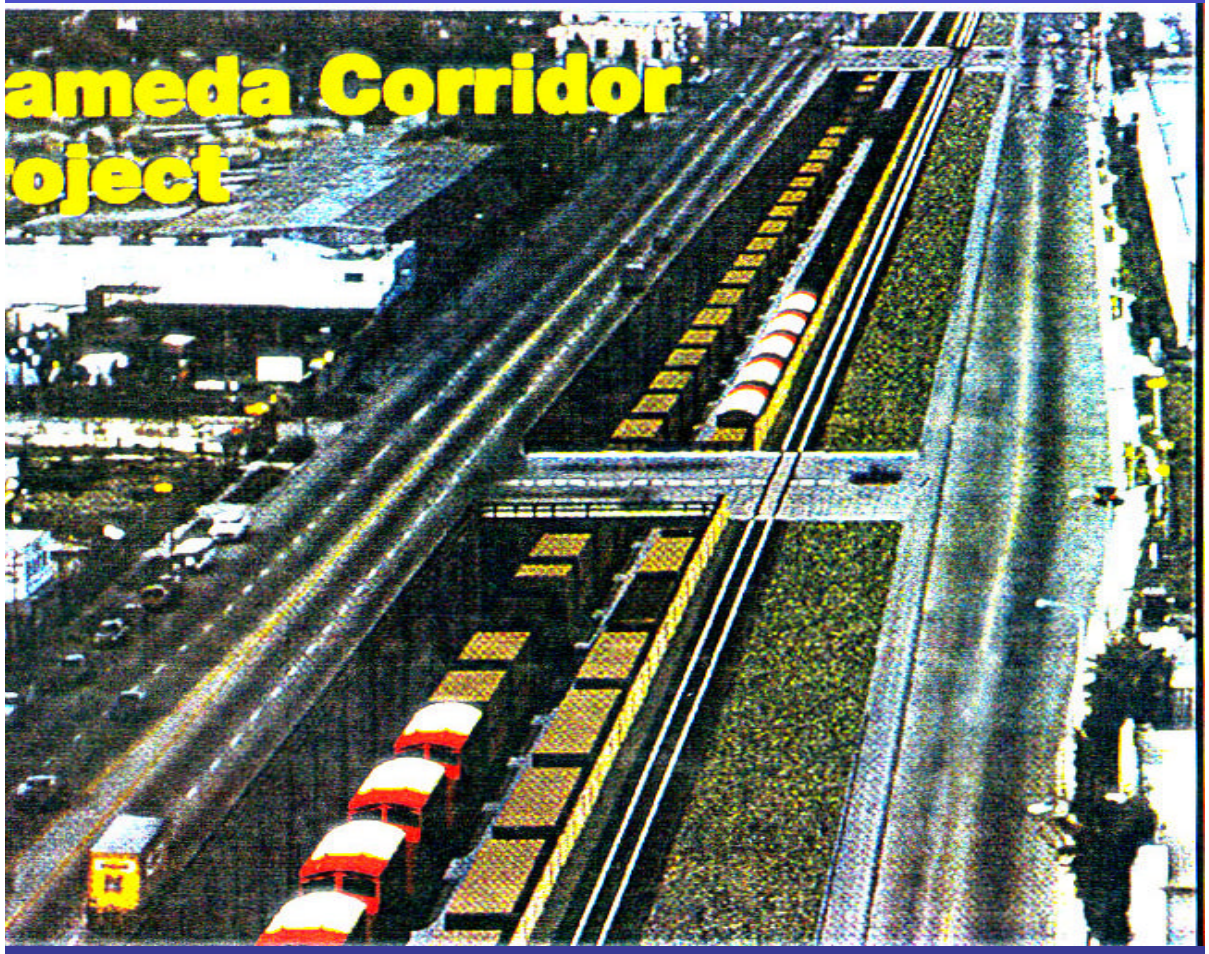
Private Sector　私的セクター
(Shippers, Carriers, Terminal Operators)



Public Sector　公共セクター
(States, Local DOTs, MPOs)

Example of Freight Management Project
Alameda Rail Corridor
貨物管理ﾌﾟﾛｼﾞｪｸﾄの例：ｱﾗﾐﾀﾞ回廊





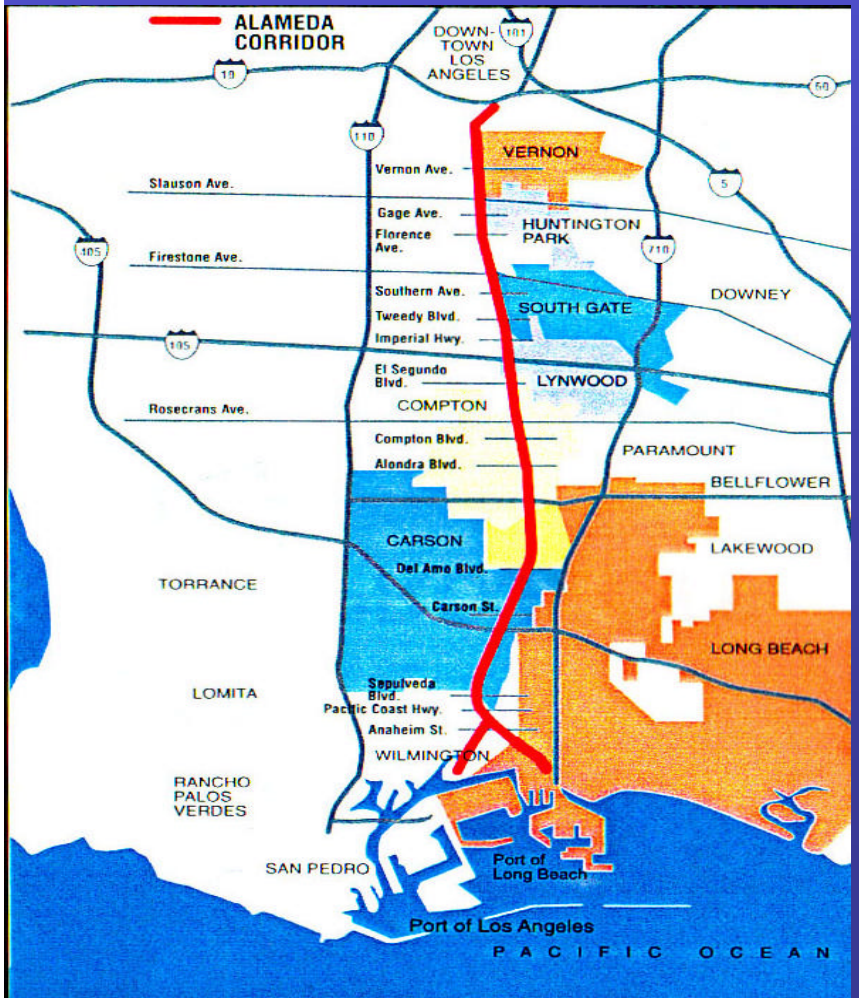
Project Characteristics プロジェクトの特色

- Consolidate port related rail traffics in to a 32 km fully-grade separated route connecting from ports to major rail yard in LA 港と鉄道ヤード間の専用鉄道
- Eliminate 200 at-grade crossing 交差点の削減
- Double speed from 32kmph to 65 スピードの倍加
- Improve intermodal connection with all other regions in the US. 他地域との連携強化
- Facilitate international trade and national economic growth 国際貿易と経済成長促進
- Significant environmental benefits for local community 地元における環境上の利益

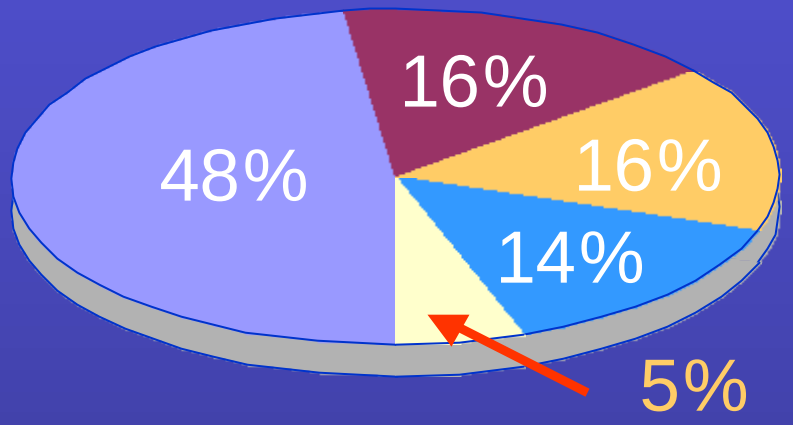
Partnerships and Innovative Financing Schemes

パートナーシップと革新的財源

ACTA: Alameda Corridor Transportation Authority



Cost: $2.4 billion



Revenue bonds:	$1,160 Mil
Federal loan:	$ 400 Mil
Port LA/LB:	$ 394 Mil
Local DOT grants:	$ 394 Mil
Other	$ 130 Mil