Importance of Central Area Industrial Land for Bay Area Goods Movement

MTC GOODS MOVEMENT/LAND USE PROJECT

Presented By

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Background: MTC Regional Goods Movement Study, 2004

- Freight transportation and infrastructure
- ***GM System* provides "economic infrastructure"** that
  - facilitates production and commerce
  - supports consumption

  throughout Bay Area
- GM System Includes all locations and ways GM businesses function within transportation infrastructure to:
  - Supply
  - Produce
  - Warehouse/store
  - Distribute
  - Transport/Deliver
- Land use issues and trends in Central Bay Area are affecting efficiency of the GM System

MTC Goods Movement/Land Use Project, 2008

To further region's understanding of:

- Land supply along key GM Corridors
- GM businesses/industries with demand for central locations
- Future GM land use pattern resulting from trends
- Transportation, environmental, and economic implications of current trends
- Land use policy issues and challenges

Project Participants

Lead: MTC

Funding Partner: Caltrans grant

Steering Committee: Staff from

- MTC
- Caltrans
- ABAG
- Joint Policy Committee
- Bay Area Council
- East Bay EDA
- Alameda Co. CMA
- West CC Co. Transp. Advisory Comm.
- Santa Clara VTA

METROPOLITAN TRANSPORTATION COMMISSION

Overall Findings

- Land use trends are reducing locations for goods movement businesses in Central Bay Area

While

- Demand for goods movement services continues to grow in central areas

Result:

- Outward dispersion of industrial goods movement businesses to locations with access back to Bay Area markets

Implications of Industrial Dispersion, While Demand Grows in Center

- More truck miles on regional routes
- Greater congestion
- More truck emissions

- Less efficient GM system with higher costs for Bay Area businesses and household consumers
- Fewer industrial jobs in proximity to urban workforce

Trends Raise Land Use Policy Issues and Challenges

- Cumulative effects of local land use decisions are having regional consequences – No oversight
- "Behind the Scenes" implications for regional economy and efficient provision and distribution of goods
- Industrial/goods movement should be part of Smart Growth Vision/FOCUS Program and AB 375 Efforts
  - Broaden focus of Vision
  - Multi-jurisdictional perspective needed

Focus on Industrial Land Use Along Key Goods Movement Corridors in Central Bay Area

- East Bay I-80/880 Corridor
  - Richmond to Fremont
- North Peninsula US 101 Corridor
  - San Mateo Co. line to Millbrae/Burlingame

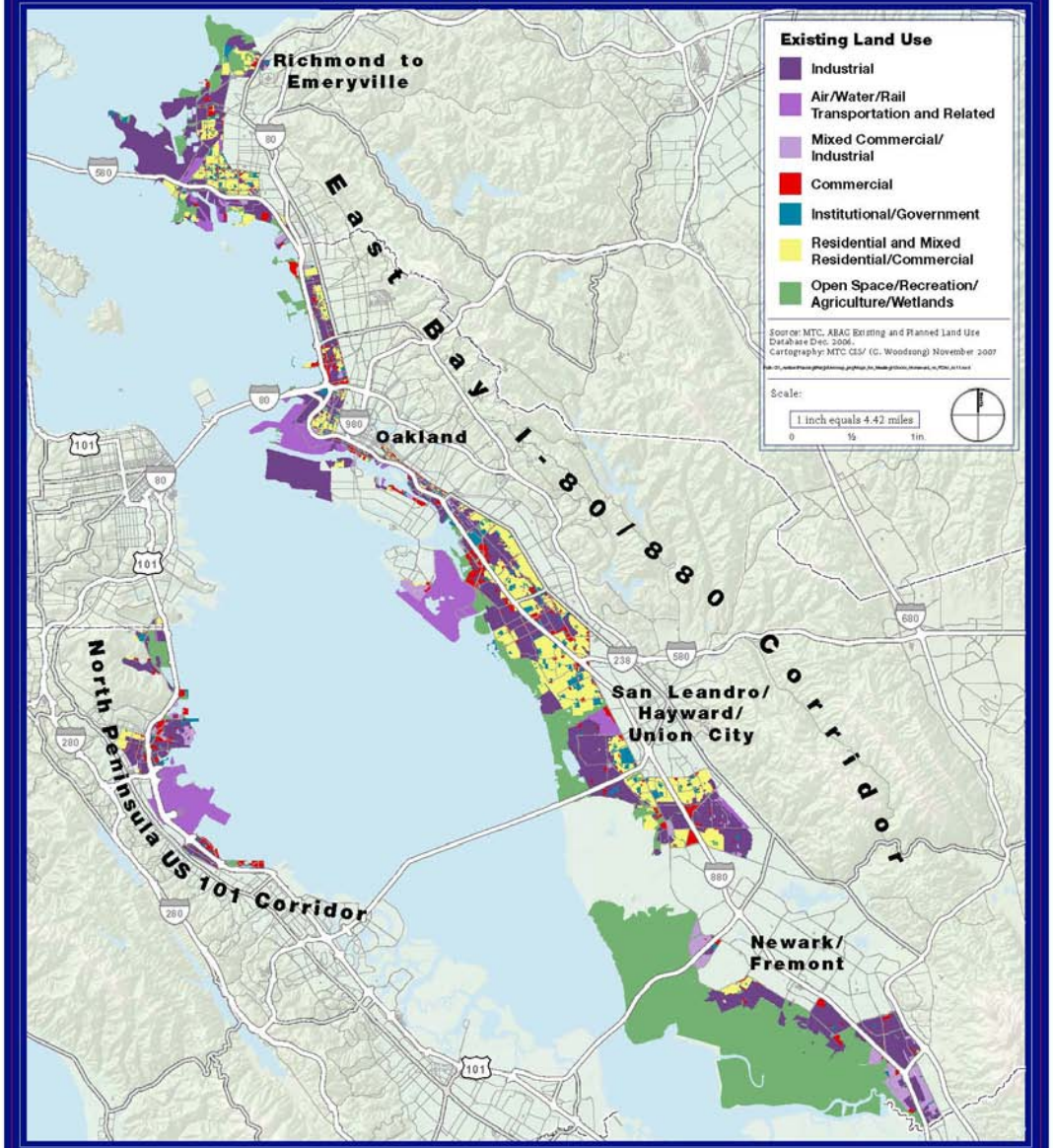
I. Central Area Industrial Land Supply

- High concentration of warehouse and manufacturing space along central, Bayside corridors
  - Proximity to business and population centers
  - Access to major airports and seaports
  - Access across the Bay

- Bay Area freight flows concentrated along central corridors

GOODS MOVEMENT LAND USE STUDY

Regional View: Key Goods Movement Corridors



Existing Land Use

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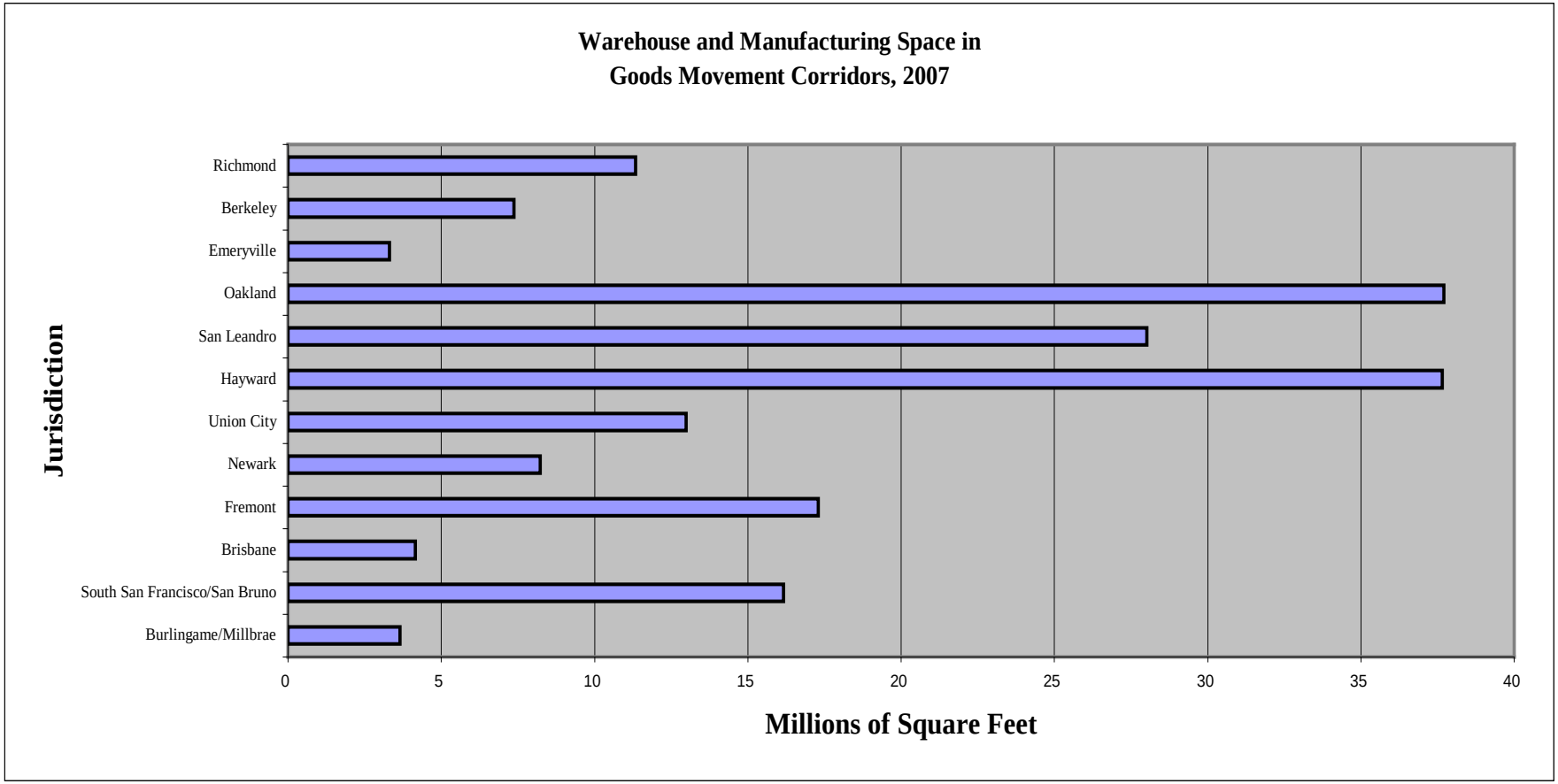
High Concentrations of Industrial Land Along Key Corridors

Industrial Land, 2006	
Industrial	
Mfg/Whse/Stor	**15,800 ac.**
Refineries/Pipelines	1,900 ac.
Closed Military	1,500 ac.
Air/Water/Rail	7,000 ac.
Mixed Com'l/Ind'l	2,200 ac.
Total Land	**28,400 ac.**

Industrial Bldg. Space, 2007	
Warehouse	100 mil. sf
Manufacturing	88 mil. sf
Total space	**188 mil. sf**

Air/Seaport/RR facilites


Warehouse and Manufacturing Space in
Goods Movement Corridors, 2007
Jurisdiction
Richmond
Berkeley
Emeryville
Oakland
San Leandro
Hayward
Union City
Newark
Fremont
Brisbane
South San Francisco/San Bruno
Burlingame/Millbrae
0
5
10
15
20
25
30
35
40
Millions of Square Feet

II. Broad Range of Goods Movement Businesses/Industries Along Central Corridors

	2006 Estabs.	2006 Employment	
Tier 1: Goods Movement Dependent Industries			
Transportation, Warehouse, Courier/Postal, and Related	630	31,770	18%
Manufacturing (excl. high-tech mfg.)	1,430	54,000	31%
Wholesale Trade	1,760	32,720	18%
Refineries, Other Resource/Energy, Waste Mgmt./Recycling	80	5,750	3%
Tier 1 Subtotal	***3,900***	***124,240***	***70%***
Tier 2: Other Goods Movement Industries			
Construction	1,150	25,570	14%
High Technology Manufacturing	260	24,920	14%
Transport/Vehicle Support, Equipment Rental, Utilities and Telecom	110	2,420	2%
Tier 2 Subtotal	***1,520***	***52,910***	***30%***
TOTAL	**5,420**	**177,150**	**100%**

Goods Movement Industries Are Important to Bay Area

- Support business activity and household consumption
  - Majority serve regional demand
  - Also serve national and international markets and facilitate trade
- Serve and support business and population centers
- Efficient goods movement along corridors enhances regional competitiveness

Goods Movement Industries Are Important To Central Bay Area Corridors

- They represent:
  - Nearly 50%of all employment in corridors
  - 23% of total employment for 22 corridor jurisdictions

- Provide good-paying, blue/green collar jobs near urban centers
- Contribute to economic diversity of local economies

III. Goods Movement Industries Are Growing As Is Demand for Central Corridor Locations

- Demand-driven forecasts for study corridors

  2006: 177,200 jobs *2035:* 282,100 jobs

  +104,900 jobs

  +59% growth

  +1.6% per year

  – Growing businesses and population in central areas

  – Growth of major airports and seaports

  – Good access to rest of region from central corridors

Forecasts Dispel Perception of Goods Movement Industries in Decline

Demand-driven Forecasts For Corridors	Employment 2006	Employment 2035	Growth	% Growth	Avg. Ann. Rate
Tier 1: Goods Movement Dependent Ind.					
Transportation and Related	31,770	61,710	29,940	94%	2.3%
Manufacturing (excl. high-tech mfg.)	54,000	64,360	10,360	19%	0.6%
Wholesale Trade	32,720	48,830	16,110	49%	1.4%
Refineries, Other Resources/Energy, Waste Mgmt./Recycling	5,750	9,630	3,880	75%	1.8%
Tier 2: Other Goods Movement Ind.					
Construction	25,570	41,420	15,850	62%	1.7%
High-Tech Manufacturing	24,920	52,830	27,910	112%	2.6%
Transport/Vehicle Support	740	1,260	520	70%	1.8%
Other (equip. rental, utilities, & telecom)	1,680	2,010	330	20%	0.6%
TOTAL	**177,150**	**282,050**	**104,900**	**59%**	**1.6%**

Forecasts Identify Growth of Demand For Central Area Industrial and Other Land Uses

Land Use	Employment 2006	Employment 2035	Growth 2006-2035	Percent Change
Industrial	**138,870**	**203,530**	**64,660**	**47%**
Airports/Seaports/Rail	11,250	23,540	12,290	109%
Refineries/Pipelines	2,110	2,150	40	2%
R&D/Lt. Industrial	24,920	52,830	27,910	112%
TOTAL	177,150	282,050	104,900	59%

IV. Strong Competition for Industrial land in Central Areas

- Market pressures for higher-value uses
- Local land use policies allow/encourage new uses in industrial areas
- Increasing land use conflicts as development intensifies around industrial uses

Result:
- Declining industrial land supply
- Increasing costs of industrial land/space

Recent Changes in Industrial Space Along Central Corridors

(Q1 2003 – Q1 2007)

East Bay		-11.8 mil. sq. ft.
I-80/880 Corridor		**-6.7%**
North Peninsula		-2.9 mil. sq. ft.
U.S. 101 Corridor		**-10.9%**
Total Space	*2003:*	202.6 mil. sq. ft.
	2007:	187.9 mil. sq. ft.
	Change	**-14.7 mil. sq. ft.**
		-7.3%

- Industrial space declined
- Industrial vacancies declined
- Industrial rents/prices increased

Land Use Policies Are Very Important

Local General Plan Land Uses for Existing Industrial Land

(% of Existing Industrial Acres)

	Industrial	Industrial At Risk:			
	Not Changed	Total	Business Mix	Com'l, Resid'l, OS	Air/Sea & Inst.
East Bay I-80/880 Corridor	**62%**	**38%**	12%	23%	3%
North Peninsula U.S. 101 Corridor	**30%**	**70%**	53%	16%	1%
TOTAL	**59%**	**41%**	16%	22%	3%

Other Land Use Changes Beyond Adopted Local General Plans Further Reducing Industrial Land

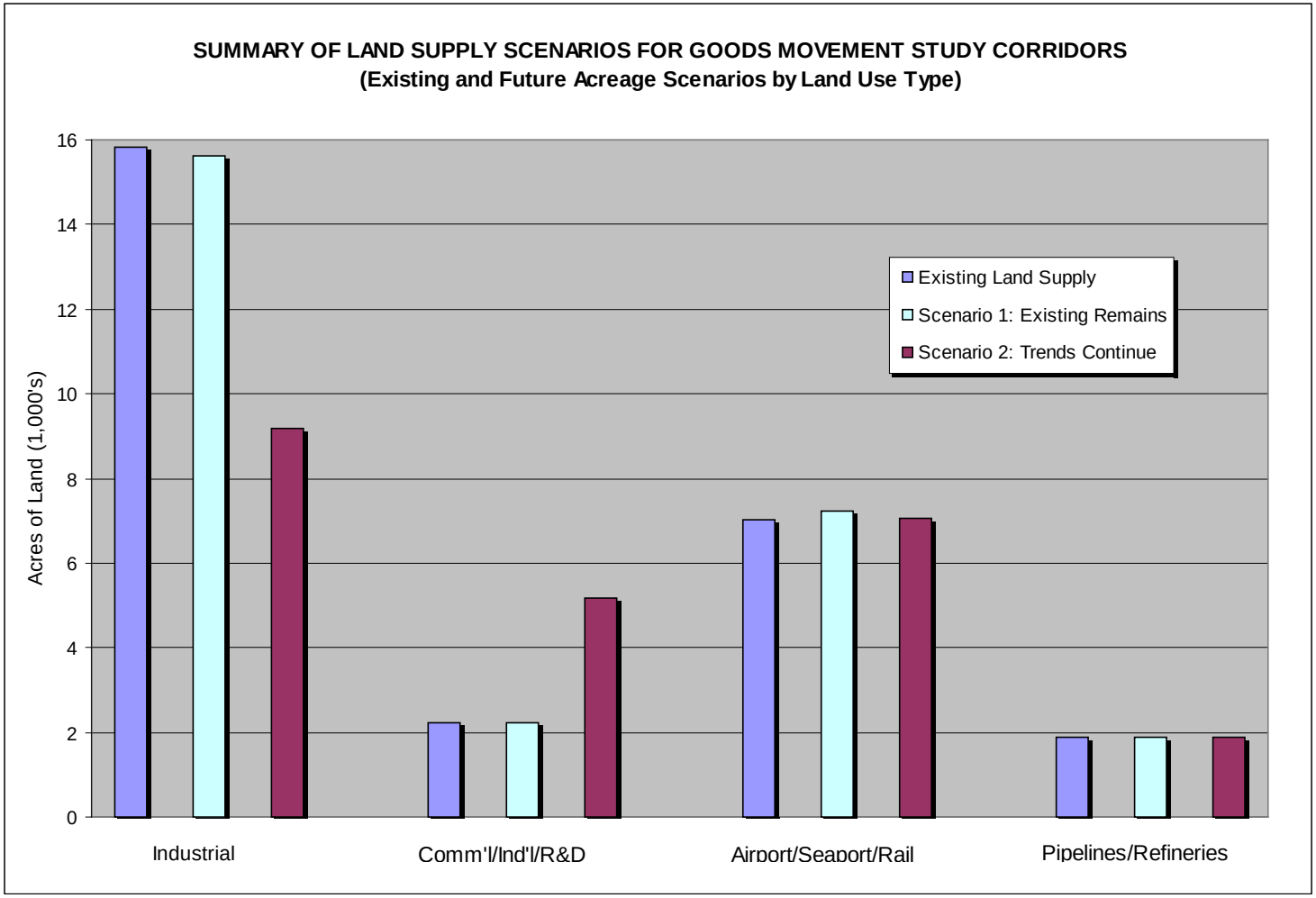
- Development projects and local planning efforts underway
  - Richmond
  - Oakland
  - San Leandro
- Priority Development Areas (PDAs) under ABAG/MTC FOCUS
  - Oakland
  - Richmond

As We Look Ahead:

- **BAY AREA GROWTH FORECASTS** show continuing trends toward intensification of residential and commercial development in central areas, competing for industrial land.

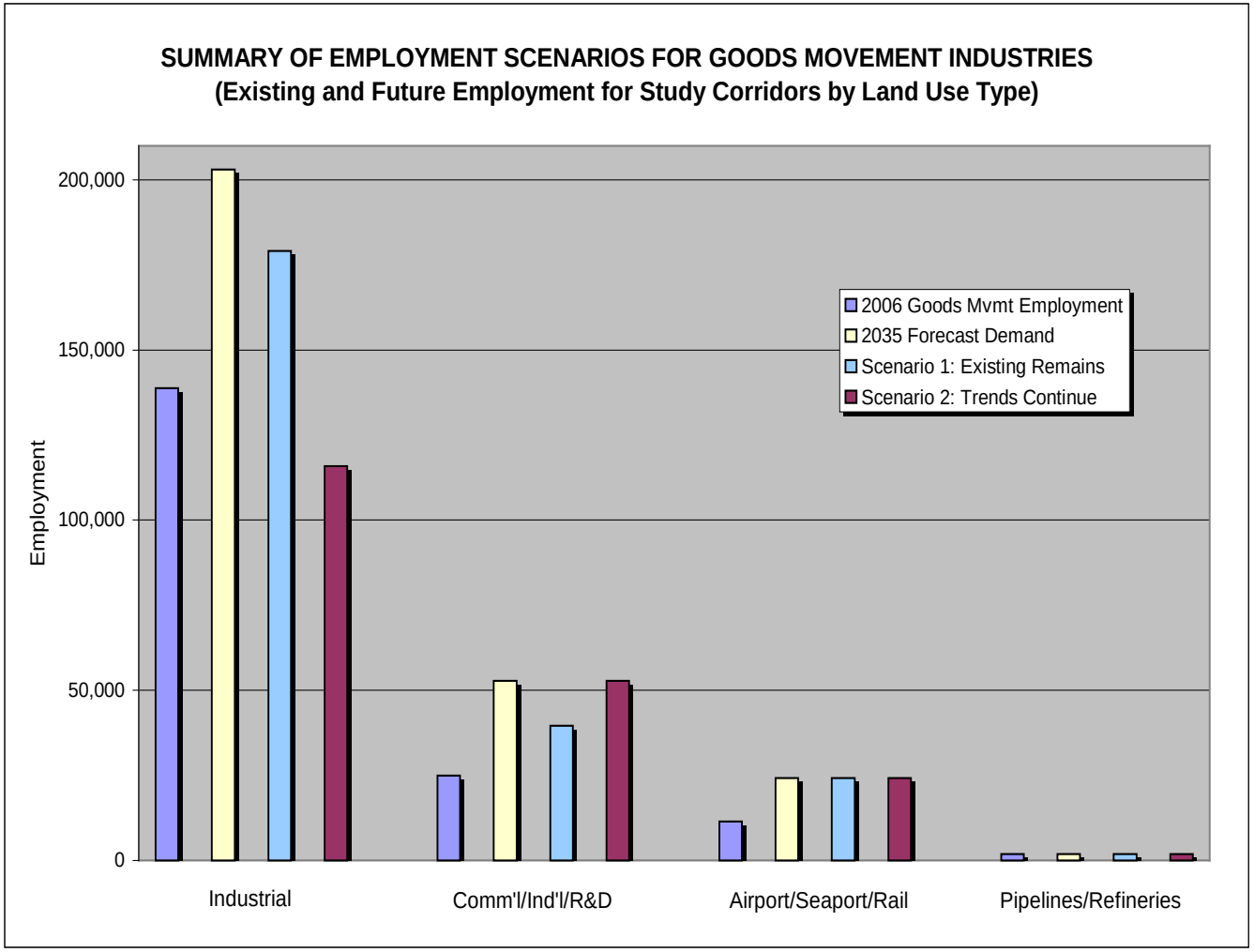
- **REGIONAL SMART GROWTH VISION AND FOCUS PROGRAM** are further intensifying trends and creating greater challenges for goods movement/industrial land uses in the central Bay Area.

Changes in Corridor Land Supply



- Under trends, industrial declines: 15,800 ac. → 9,200 ac.

V. Demand for Industrial Land in Central Areas Will Greatly Exceed Supply Under Trends



- Trends Scenario for GM Industrial Land Use

  Demand 2035 203,000 jobs

  Accommodated 116,000 jobs
  in Corridors 57%

  Incorporates more intensive use of industrial land

- Airport/Seaport/Rail activities accommodated
  - Industrial land shortages nearby could impact operations

Result: Outward Dispersion of Industrial Goods Movement Businesses

- Goods movement businesses with 87,000 jobs must locate outside central corridors
- Geography limits alternative locations nearby
- Demand shifting outward focused on locations with access back to central Bay Area markets
  - 64% to inland San Joaquin Valley, I-580/I-5
  - 30% to outlying parts of Bay Area
    - Tri-Valley, I-580
    - Solano County, I-80/780/680
    - Contra Costa Co., I-680 North
    - Other San Mateo Co./Santa Clara Co., US 101
  - 6% out of area entirely

- More dispersed goods movement land use pattern results

VI. Impacts Arise From Dispersed GM Businesses and Effects on Travel Patterns of Truck Trips

- Many truck trips return to East Bay and North Peninsula corridors
- Other truck trips return to major airport and seaport facilities
- Many other truck trips return to serve markets in rest of Bay Area
  - San Francisco
  - South Bay
  - Outer East Bay
  - North Bay

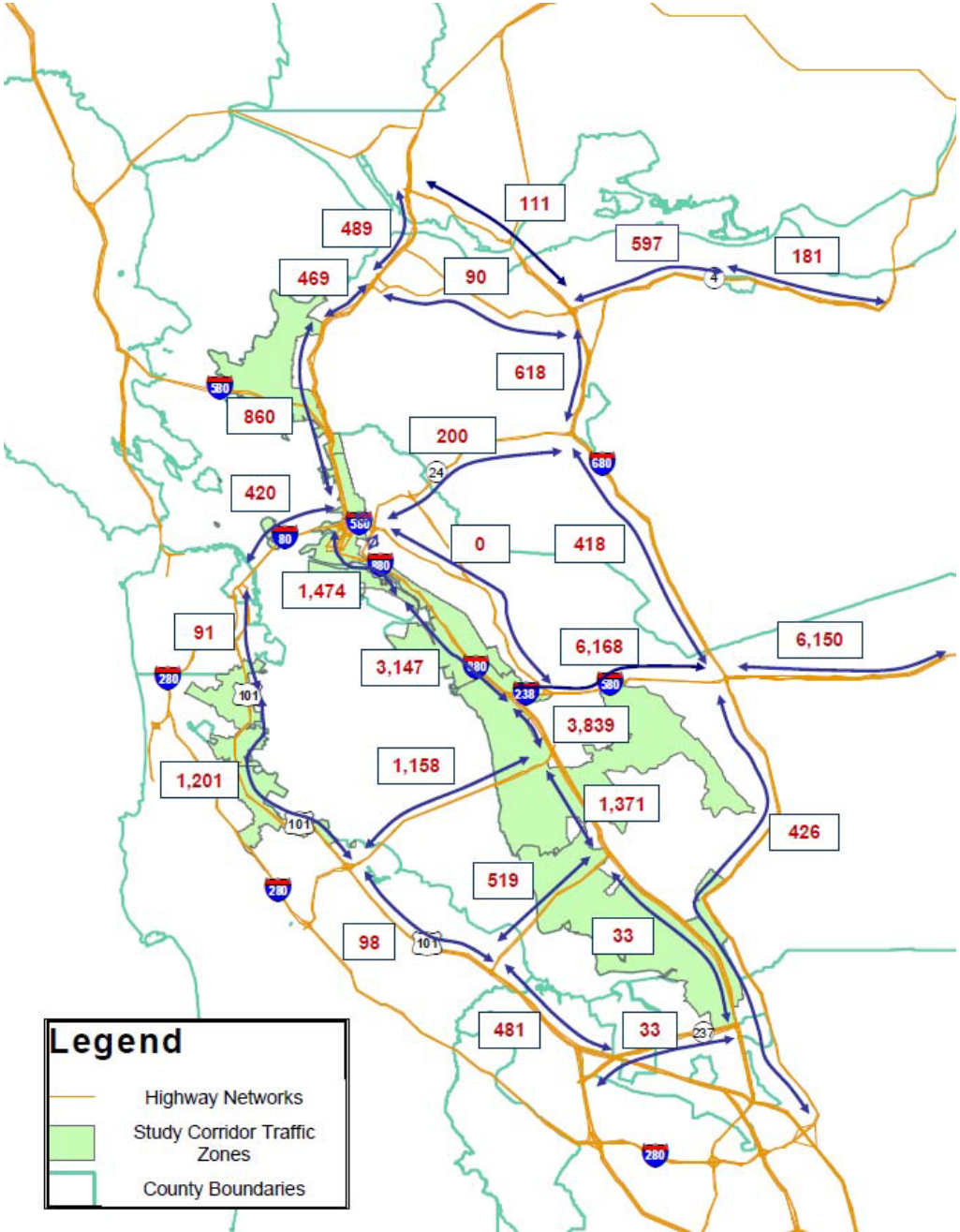
Transportation Impacts
More Trucks and Greater Congestion on Key Corridors

CORRIDOR TRANSPORTATION IMPACTS: ADDITIONAL DAILY TRUCK COUNTS				
	Impacts			
		Additional Trucks As % Of:		
Corridor / Facility	Additional Daily Trucks* 2035	Daily Trucks 2006	Truck Volumes Otherwise Projected 2035	Total Vehicle Volumes Otherwise Projected 2035
SR-4	**597**	26%	17%	0.2%
I-80	**860**	10%	7%	0.3%
I-680	**618**	7%	5%	0.3%
I-580 (West of I-680)	**6,168**	66%	46%	2.9%
I-580 (East of I-680)	**6,150**	39%	24%	2.6%
I-580 Average	**6,159**	49%	35%	2.8%
I-880	**3,839**	23%	19%	1.6%
US-101	**1,201**	12%	8%	0.4%
Bay Bridge	**420**	7%	5%	0.1%
San Mateo Bridge	**1,158**	19%	12%	0.9%
Dumbarton Bridge	**519**	25%	16%	0.5%

Impacts concentrated on I-580 and I-880

which are already highly congested.

Additional Daily Truck Trips on the Regional Goods Movement System



More Trucks and Higher Truck VMT and VHT

IMPACTS ON MAJOR GOODS MOVEMENT CORRIDORS:
ADDITIONAL DAILY TRUCK VMT

Corridor/Facility	Additional Daily Truck VMT 2035	Total Daily Truck VMT Otherwise Projected 2035	Add'l. Daily Truck VMT as % of Truck VMT Otherwise Projected
I-580	188,419 – 188,699	686,059	27%
I-880	0 – 65,526	568,828	0 – 12%
US-101	13,067 – 25,431	736,583	2 – 3%

Source: Cambridge Systematics, Inc; Caltrans; Metropolitan Transportation Commission model.

- Detrimental effects, particularly on I-580 and I-880
- Adding to congestion in already congested corridors
- Greater safety concerns
- Greater emissions of criteria pollutants

Air Quality Impacts From Greater Truck Emissions

- Greater truck emissions could affect Bay Area attainment status for several key pollutants

- Corridor impacts to pose increased health risks in I-580 Corridor
  - Over 50% of additional truck emissions to occur here

Broad Regional Economic Implications

- Additional transportation costs to GM businesses shifted outward

  Particularly significant to businesses more dependent on transportation

- Higher costs passed on to other businesses

  ↓

- Higher costs of doing business in Bay Area

  ↓

- Higher cost of living overall

  ↓

- Adverse implications for regional competitiveness

Effects on Jobs and Business Activity in Central Bay Area

- Fewer good-pay jobs in proximity to urban workforce
  - 87,000 fewer GM industry jobs
- Additional outward shifts of related businesses and jobs
  - Suppliers
  - Supporting businesses
- Less economic diversity
- Less jobs-housing balance

VII. Regional Land Use Planning Framework for Industrial Land Supply and Goods Movement Would Be Beneficial

- Cumulative effects of local decisions are determining regional outcome – somewhat by default
- Industrial land supply is a valuable regional resource, supporting
  - efficient goods movement
  - major airports and seaports
  - regional economic growth
- Some urgency, as trends resulting in ***permanent loss*** of industrial land supply

From the Regional Perspective:

- **Industrial/Goods Movement Component of Regional Smart Growth and AB 375 Planning Makes Sense**
  - Need to broaden focus of Vision
  - Cities need regional support
- **Intent: Promote Balance of Industrial/Goods Movement Uses in Proximity to Business and Population Centers Served**

- **Can Be Done Without Sacrificing Objectives for Other Land Uses**

  - Industrial land uses occupy small share of land in Bay Area

Industrial Land Use as % of Urbanized Land, 2005

Bay Area	6%	San Mateo Co.	3%
Alameda Co.	8%	San Francisco	3%
Contra Costa Co.	7%	Santa Clara Co.	6%

  - Many more locations for infill housing and commercial development outside functional industrial areas

Challenges Involved and Barriers to Overcome

Will Require:

- Balancing local concerns/incentives with regional benefits
  - Strong local concerns and incentives in favor of higher-value land uses over industrial/goods movement uses
  - Benefits accrue more broadly throughout the region and are “behind the scenes” and not well understood
- Devising multi-jurisdictional approach for large metropolitan region
  - Efficiency of goods movement system is regional
  - Umbrella of Smart Growth/FOCUS makes sense

Overview of Goods Movement Industries and Land Use Issues in the South Bay

Goods Movement in the South Bay is Focused on High-Tech Mfg. and on Serving Silicon Valley

Comparatively, Goods Movement in the South Bay:

- Includes substantially more high-tech manufacturing
  - 60% of value of Bay Area exports from South Bay
- Includes relatively fewer industrial GM businesses
  - Notably fewer in transportation/warehousing and other manufacturing
- Focuses on serving Silicon Valley and the South Bay, due to:
  - Large size of South Bay economy
  - Specialization in high-tech industries
  - Lack of major regional freight transportation facilities in South Bay
  - Location at southern end of region

Land Use Patterns For South Bay Goods Movement Industries

- Most GM industries are located in northern and central parts of South Bay

- GM land uses cover wide geographic area without strong corridor focus

- About 85 mil. sf of warehouse and manufacturing space in Santa Clara County
  - Warehouse 33 mil. sf
  - Manufacturing 52 mil. sf

  About 50% in San Jose, with larger amounts in Santa Clara, Sunnyvale, and Milpitas

- About 130 mil. sf of R&D space

  About 33% in San Jose, with larger amounts in Santa Clara, Sunnyvale, Milpitas, and Mountain View

Industrial Land Use Trends, Issues, and Policies in the South Bay

- Have been losses of industrial land and building space
  - Loss of vacant industrial land primarily , and declines in warehouse/manufacturing space
  - Loss of employment land a major issue in San Jose
  - Losses of industrial land and space in other northern areas, including Sunnyvale, Milpitas, and Santa Clara
- Growing demand for industrial locations
- Land use policies are important
  - Had allowed/encouraged other uses on industrial land
  - New policies for preserving employment lands in San Jose and for evaluating industrial conversions in Santa Clara
- Declining industrial land supply could constrain future industrial growth in South Bay

Goods Movement Land Use Issues and Implications

- A more dispersed goods movement land use pattern likely
  - Industrial GM businesses serving other businesses and households will shift outward due to shortages of industrial land in northern and central South Bay
- Consequences for transportation, air quality, and economy
- Less efficient and more costly goods movement system in South Bay
- Could reduce competitive advantages of South Bay for high technology and other “driving” industries
- Regional initiatives could combine with local efforts to support industry’s role in South Bay