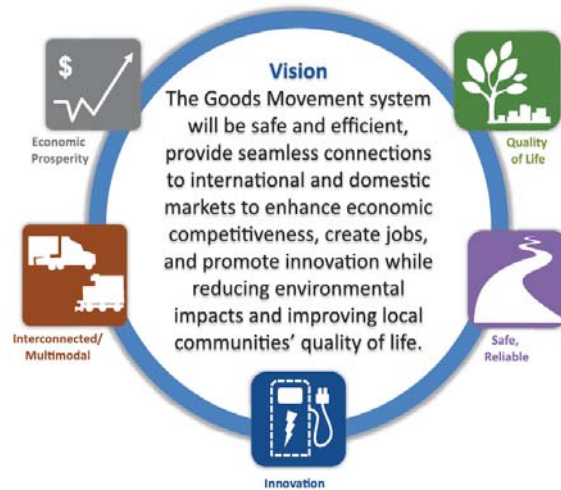


Goods Movement Vision and Goals



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Purpose of Needs Assessment

- **Evaluate** the existing and future conditions of freight assets in Alameda County against goals and performance measures (established in prior tasks)
- **Identify** gaps, issues and opportunities for each functional element based on performance measure ratings
- **Assess** crossing cutting issues such as land use, community, and health impacts based on performance measure ratings
- **Set** the stage for defining projects, programs and policies

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How Needs Assessment Will Be Used

- Develop strategies to meet goals for any functional elements that need improvement based on performance measure evaluation in needs assessment
- Develop combinations of strategies to pursue opportunities
- Strategies will be evaluated against **ALL** performance measures
 - *If a strategy makes performance better in one area but worse in another additional strategies will be incorporated in plan to “balance portfolio”*

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Today's Meeting and Next Steps

- Needs Assessment – Performance Measure Results
 - *Cross-Cutting Issues*
 - *Local Streets and Roadway Issues (Local Truck Routes)*
 - *Interregional and Intraregional Corridor Issues (Highway and Rail)*
 - *Global Gateway Issues (Seaport and Airport)*
 - *Opportunities*
- Interactive Discussion
- Next Meetings
 - *February Meeting – Finish review of Needs Assessment and initiate strategy discussion*
 - *March Meeting – Recommend strategies for evaluation*

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Feedback Desired

- Are the opportunities presented well-characterized? Are there additional opportunities we should capture?
- Are the needs and issues presented well-characterized? Is there anything else we should look at?
- What ideas do you have for strategies that should be evaluated to address these needs?
 - *Projects (or types of projects)*
 - *Programs (e.g., new funding categories)*
 - *Policies and partnerships*

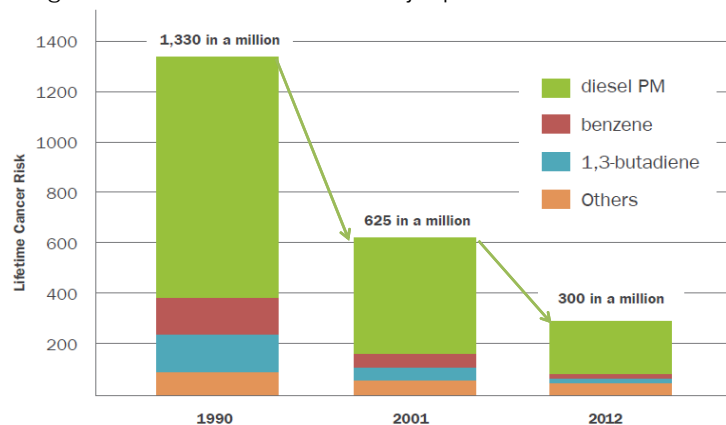
Needs Assessment Summary *Cross-Cutting Issues*

Context for Cross-Cutting Issues

- Crossing-cutting issues apply to multiple modes and functional elements. These include:
 - *Environmental, public health issues*
 - *Issues related to external/non-transportation policy decisions (Hours of Service, Labor, Land-Use)*
- Issues that are discussed under cross-cutting issues are often related to other performance issues that are discussed in the functional element sections but are covered with more focus in the cross-cutting issues section

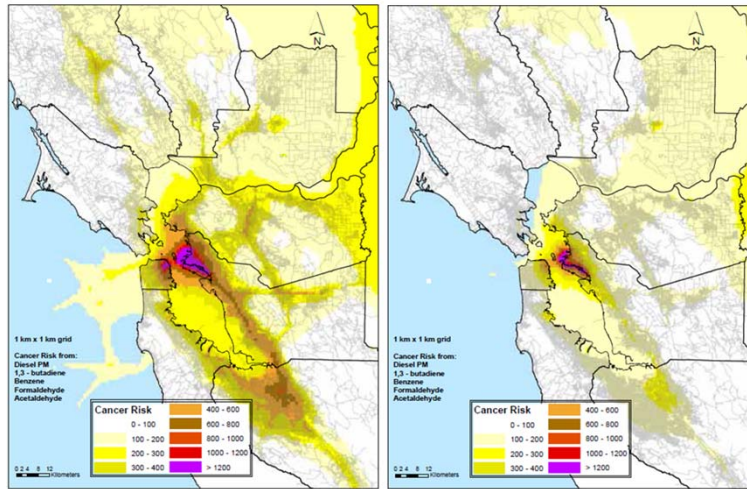
Air Quality and Environmental Impacts - Emissions from Freight

Significant reductions but still major public health issue



Source: Improving Air Quality and Health in Bay Area Communities, Community Air Risk Evaluation Program Retrospective and Path Forward (2004 – 2013), BAAQMD, April 2014.

Air Quality and Environmental Impacts – Localized Health Effects



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Sea Level Rise Vulnerability

Asset	Sensitivity	Exposure	Vulnerability	Risk
Highway				
I-80 and San Francisco Bay Bridge Approach	●	●	●	●
I-880	●	●	●	●
SR 92 and San Mateo Bridge Approach	●	●	●	●
Railroad				
UP Martinez Subdivision	—	●	●	●
UP Niles Subdivision	—	●	●	●
BNSF International Gateway Intermodal Yard	—	●	●	●
Port of Oakland and Related Assets				
West Grand Avenue	●	●	●	●
Burma Road	●	●	●	●
Oakland International Airport and Related Assets				
Hegenberger Road and Airport Drive	●	●	●	●

Source: Adapting to Rising Tides.

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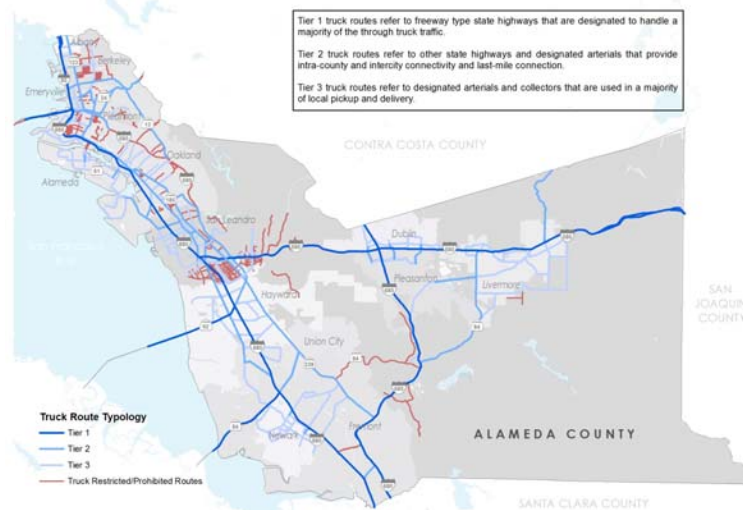
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Industrial Land Supply

- Continuing loss of industrial land to commercial and residential development
 - *Due to market pressures, and land use policies*
- Increases conflicts around borders between industrial and residential developments threatens viability of goods movement corridors
- Past studies have demonstrated potential impacts
 - *Job displacement, increased truck-related emissions, and goods movement costs*
- ABAG beginning work on industrial land supply and policies in 2015

Needs Assessment Summary *Local Streets and Roads Issues*

Truck Routes and Restrictions



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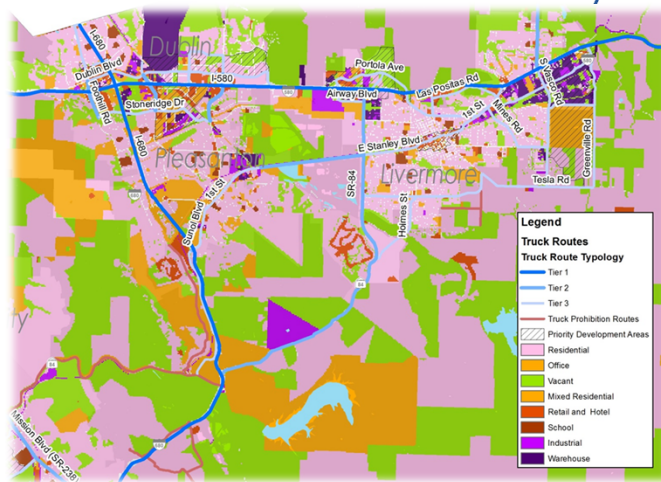


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Truck Route Connectivity and Land Use Conflicts – East County



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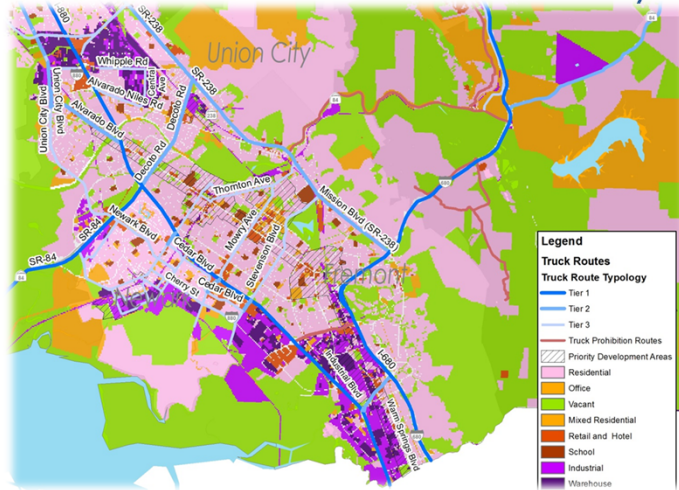


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Truck Route Connectivity and Land Use Conflicts – South County



Source: Cambridge Systematics Analysis; Truck Routes and restriction information collected from cities; Land use information from MTC.

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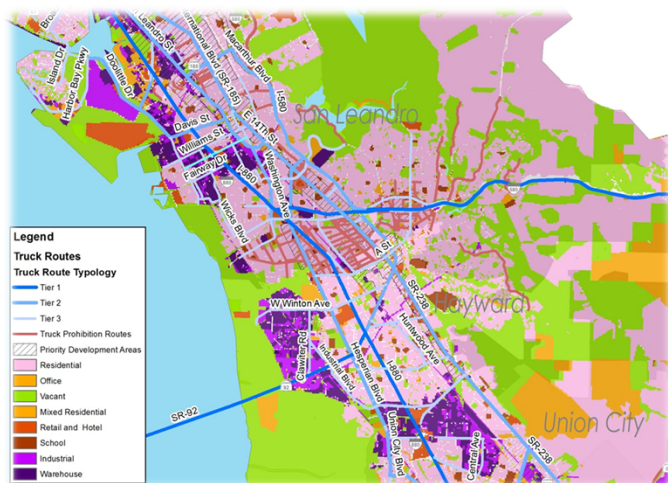


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Truck Route Connectivity and Land Use Conflicts – Central County



Source: Cambridge Systematics Analysis; Truck Routes and restriction information collected from cities; Land use information from MTC.

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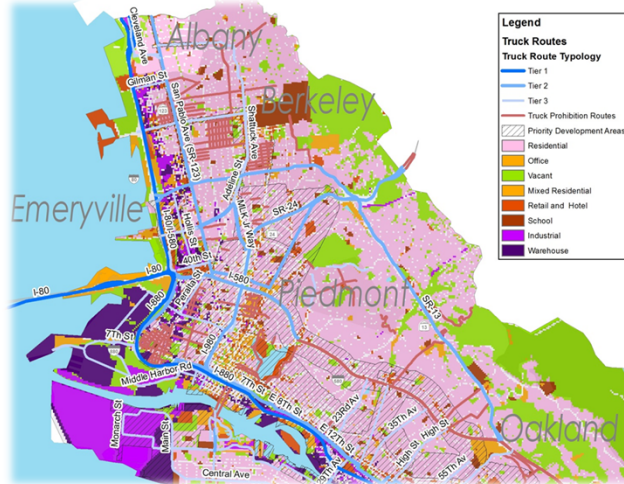


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Truck Route Connectivity and Land Use Conflicts – North County



Source: Cambridge Systematics Analysis; Truck Routes and restriction information collected from cities; Land use information from MTC.

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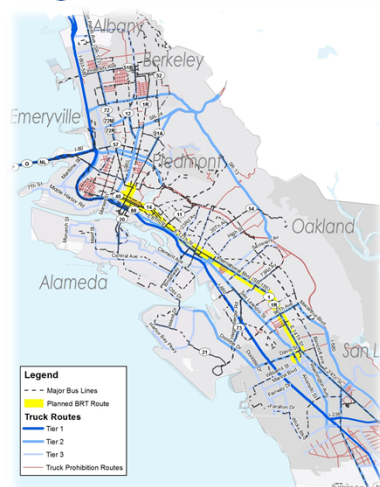


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Truck Routes and Modal Conflicts – High Frequency Bus Routes



- Overlap of major bus routes with truck routes on:
 - *International Blvd*
 - *Hegenberger Rd*
 - *University Avenue*
 - *San Pablo Avenue*
- Planned BRT on International Blvd

Source: Bus routes and frequency information from Parsons Brinkerhoff; Cambridge Systematics Analysis.

Note: Major bus lines include bus lines with daily weekday frequencies of more than 50 trips.

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LOS Conditions on Truck Routes – AM Peak



Source: INRIX 2014, Cambridge Systematics analysis.

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LOS Conditions on Truck Routes – PM Peak



Source: INRIX 2014, Cambridge Systematics analysis.

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Pavement Conditions on Truck Routes

Jurisdiction	2013 PCI of Truck Route Segments	2013 PCI of Non Truck Route Segments	2013 PCI for Arterials & Collectors Combined	2013 Total Network PCI	Arterials/C collectors lane miles	Avg. Annual Truck Route Maintenance Cost (\$/lane mile)	Avg. Annual Arterial & Collector Maintenance Cost (\$/lane mile)	Average Annual Network Maintenance Cost
Alameda	74	64	74	67	139	\$14,199	\$12,930	\$13,282
Alameda County	74	69	73	71	544	\$58,205	\$18,055	\$18,892
Albany	56	53	59	55	21	\$6,814	\$17,735	\$17,331
Berkeley	67	56	61	58	138	\$30,019	\$23,802	\$25,243
Dublin	88	83	84	85	135	\$3,370	\$5,238	\$4,570
Emeryville	73	71	74	73	39	\$5,935	\$11,470	\$10,198
Fremont	67	59	66	61	580	\$10,058	\$16,278	\$15,896
Hayward	71	65	72	67	305	\$10,094	\$14,717	\$14,069
Livermore	75	76	75	77	251	\$7,014	\$9,008	\$8,611
Newark	80	73	77	76	156	\$7,247	\$18,223	\$14,121
Oakland	65	56	61	58	906	\$23,779	\$12,426	\$13,286
Piedmont	76	65	72	67	26	\$7,291	\$9,637	\$9,183
Pleasanton	75	77	78	78	291	\$7,474	\$12,000	\$11,898
San Leandro	68	54	64	57	155	\$15,092	\$18,094	\$17,471
Union City	74	78	79	79	189	\$3,199	\$15,006	\$14,568

Notes: Area weighted PCI of sections belonging to truck route in jurisdiction; Area weighted PCI of sections NOT belonging to truck route in jurisdiction; Area weighted PCI of sections belonging to Arterial and Collectors ONLY in jurisdiction; 2013 PCI, all section except 'Other'; The annual cost per lane mile for maintenance done between 2001 and 2014 for all sections on a truck route that are arterials or collectors. Costs based on Starting PCI of treatment to determine type of treatment, and unit costs. The annual cost per lane mile for maintenance done between 2001 and 2014 for all sections NOT on a truck route that are arterials or collectors. Costs based on Starting PCI of treatment to determine type of treatment, and unit costs. The annual cost per lane mile for maintenance done between 2001 and 2014 for all sections that are arterials or collectors. Costs based on Starting PCI of treatment to determine type of treatment, and unit costs.

PCI Rating: Green - Good or very good condition; Yellow - Fair condition; Red - At risk, poor, or failed condition.

Source: MTC.

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Local Roads Safety – Top Truck Crash Locations



Source: SWITRS, Cambridge Systematics Analysis.

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Truck Parking Issues

- Port-related parking issues in West Oakland
 - *Location of truck services and truck-oriented businesses – Oakland Army Base plans and West Oakland Specific Plan*
 - *New parking sites and requirements – Oakland Army Base EIR*
 - *Parking and truck route enforcement issues*
- Corridor parking needs- I-880
 - *Overnight parking – HOS rules*
- Urban delivery issues
 - *Curbside management – Complete Streets*
 - *Time-day-use*

Needs Assessment Summary *Interregional and Intraregional Corridor Issues*

Top 10 Truck Delay Locations in 2010 - AM



Source: INRIX 2014; Alameda County Truck Travel Demand Model; PeMS time of day distribution, Cambridge Systematics analysis.

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Top 10 Truck Delay Locations in 2010 - PM



Source: INRIX 2014; Alameda County Truck Travel Demand Model; PeMS time of day distribution, Cambridge Systematics analysis.

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Corridor Level Reliability, 2014

AM Peak

PM Peak

Corridor	Length	AM Peak Truck VMT	Average BII	AM Peak Excess Truck Travel Time Budgeted (VMT*BTI)	Reliability Index (Excess Time/Mile)	Corridor	Length	PM Peak Truck VMT	Average BII	PM Peak Excess Truck Travel Time Budgeted (VMT*BTI)	Reliability Index (Excess Time/Mile)
I-880 NB	25.5	4,598	0.50	2,281	2,191	I-80 EB	4.87	1,896	1.68	3,185	2,191
I-880 SB	26.2	4,561	1.04	4,744	1,554	I-80 WB	6	1,669	1.67	2,783	1,554
I-580 EB	32.7	7,156	0.10	730	1,427	I-580 EB	32.7	10,068	1.38	13,935	1,427
I-680 NB	20.91	3,353	0.11	382	1,253	I-680 NB	20.91	4,717	1.66	7,821	1,253
I-980 EB	2.44	166	0.17	28	1,161	I-880 NB	25.5	6,470	1.37	8,838	1,161
I-980 WB	2.49	166	0.40	66	710	I-880 SB	26.2	6,418	0.87	5,558	710
I-80 WB	6	1,186	1.67	1,981	325	I-238 WB	2.48	210	1.15	241	325
SR 24 WB	4.58	161	0.52	84	313	I-980 WB	2.49	233	1.00	233	313
I-238 EB	2.59	81	0.91	74	288	SR 24 EB	4.53	177	2.20	389	288
I-680 SB	18.36	3,263	0.42	1,358	191	I-680 SB	18.36	4,591	0.23	1,047	191
SR 24 EB	4.53	126	0.11	14	190	I-980 EB	2.44	233	0.59	138	190
I-580 WB	28.7	3,735	1.07	3,989	184	I-580 WB	28.7	5,255	0.30	1,577	184
I-80 EB	4.87	1,348	0.044	59	124	I-238 EB	2.59	114	0.84	96	124
I-238 WB	2.48	149	0.084	13	39	SR 24 WB	4.58	227	0.24	53	39

Source: INRIX 2014 Data and Cambridge Systematics Calculations.

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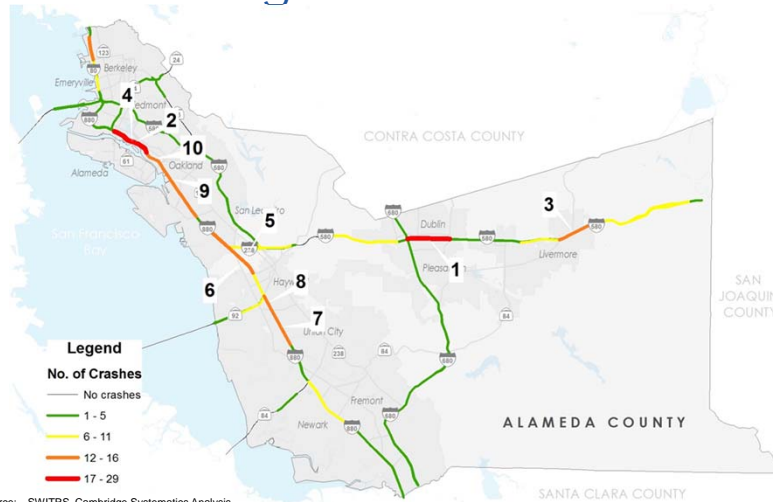


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Truck Involved Crashes - Inter/Intraregional Corridors



Source: SWITRS, Cambridge Systematics Analysis.

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Congestion/Capacity Needs – Rail

Subdivision	From:	To:	Existing			2020		
			Freight Daily Trains	Total Daily Trains	LOS	Freight Daily Trains	Total Daily Trains	LOS
UP Coast	San Jose	Newark	8	30	F	10	42	F
UP Coast	Newark	Oakland	6	8	C	8	10	C
UP Martinez	Sacramento	Martinez	18	52	C	22	56	D
UP Martinez	Martinez	Richmond	18	60	C	22	66	E
UP Martinez	Richmond	Emeryville	17	59	D	30	74	E
UP Martinez	Emeryville	Oakland	17	57	D	30	72	E
UP Niles	Newark	Niles	6	30	B	8	44	C
UP Niles	Niles	Oakland	2	18	C	2	26	E
UP Oakland	Niles	Stockton	4	12	B	11	23	D
BNSF Stockton	Stockton	Port Chicago	10	18	C	12	22	D

Source: AECOM calculations.

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Operations and Access Issues - Rail

- Changing nature and use of Northern California rail system
 - Bulk unit trains and manifest traffic on Oakland/Niles to new terminals at Port of Oakland
 - Increasing domestic and international intermodal traffic on Martinez subdivision
- Passenger and freight conflicts a critical issue
 - Need to look for ways to separate and/or build in sidings and operational flexibility
 - Connections between UP Oakland subdivision and UP Niles subdivision through Niles Canyon – use of old Niles Railway
 - Capitol Corridor looking for separation through Emeryville, move from Niles to Coast Subdivision

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Operations and Access Issues - Rail

- BNSF access to OIG intermodal terminal at Port of Oakland crosses UP yard
 - *OAB north lead project planned to address this*
- Need for grade separations/signal improvements/street closures and quiet zones to reduce impacts on communities along heavily-used rail corridors

Needs Assessment Summary *Global Gateway Issues*

Congestion and Capacity Needs – Seaports and Airports

- Port of Oakland has sufficient intermodal terminal capacity but needs expansion of bulk terminal/cold storage facilities
 - *Need to lengthen berths for large ships*
 - *Need to expand rail terminal capacity and access as markets develop*
 - *Need to strategically plan for reduction of impacts on neighboring communities*
- Bay Area airports have sufficient capacity for growth -- Highway congestion is key constraint for air cargo growth and reliability

Operations and Access Issues – Global Gateways

- Port of Oakland
 - *Improve ability to process large ships and control gate access (gate queues sometimes backing up to freeway ramps)*
 - *Eliminate access bottleneck caused by 7th Street grade crossing*
 - *Address bike and pedestrian access issues*
- OAK
 - *Address congestion issues on Hegenberger, 98th, and Doolittle*

Opportunities



Context-Setting Opportunities

- **Goods Movement to Support Emerging Industries**

- *These includes biotech, artisanal foods, clean energy & transportation, advanced manufacturing, recycled materials*
- *Coordinate industrial land use plans and goods movement infrastructure investment in I-880/I-80 corridor*
- *Guidance for truck route and rail corridor planning and buffering*

- **E-Commerce and Advanced Retail Distribution**

- *Capture value-added economic activity; neighborhood & commercial center impacts*
- *Connections between Third-Party Logistics (3PL) warehouses, seaport, and airport*
- *Off-peak deliveries, Complete Streets guidance in downtowns*

- **Bulk Exports and Expanded Rail Services**

- *Growth in bulk exports (including ag and food products via interregional connections) at seaports; increased demand on rail corridors*
- *Coordinated development of Martinez, Niles, and Oakland Subdivisions*
- *At-grade crossing improvements, quiet zones*



Wrap-Up

Discussion

- Are the opportunities presented well-characterized? Are there additional opportunities we should capture?
- Are the needs and issues presented well-characterized? Is there anything else we should look at?
- What ideas do you have for strategies that should be evaluated to address these needs?
 - *Projects (or types of projects)*
 - *Programs (e.g., new funding categories)*
 - *Policies and partnerships*

Thank You!



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