

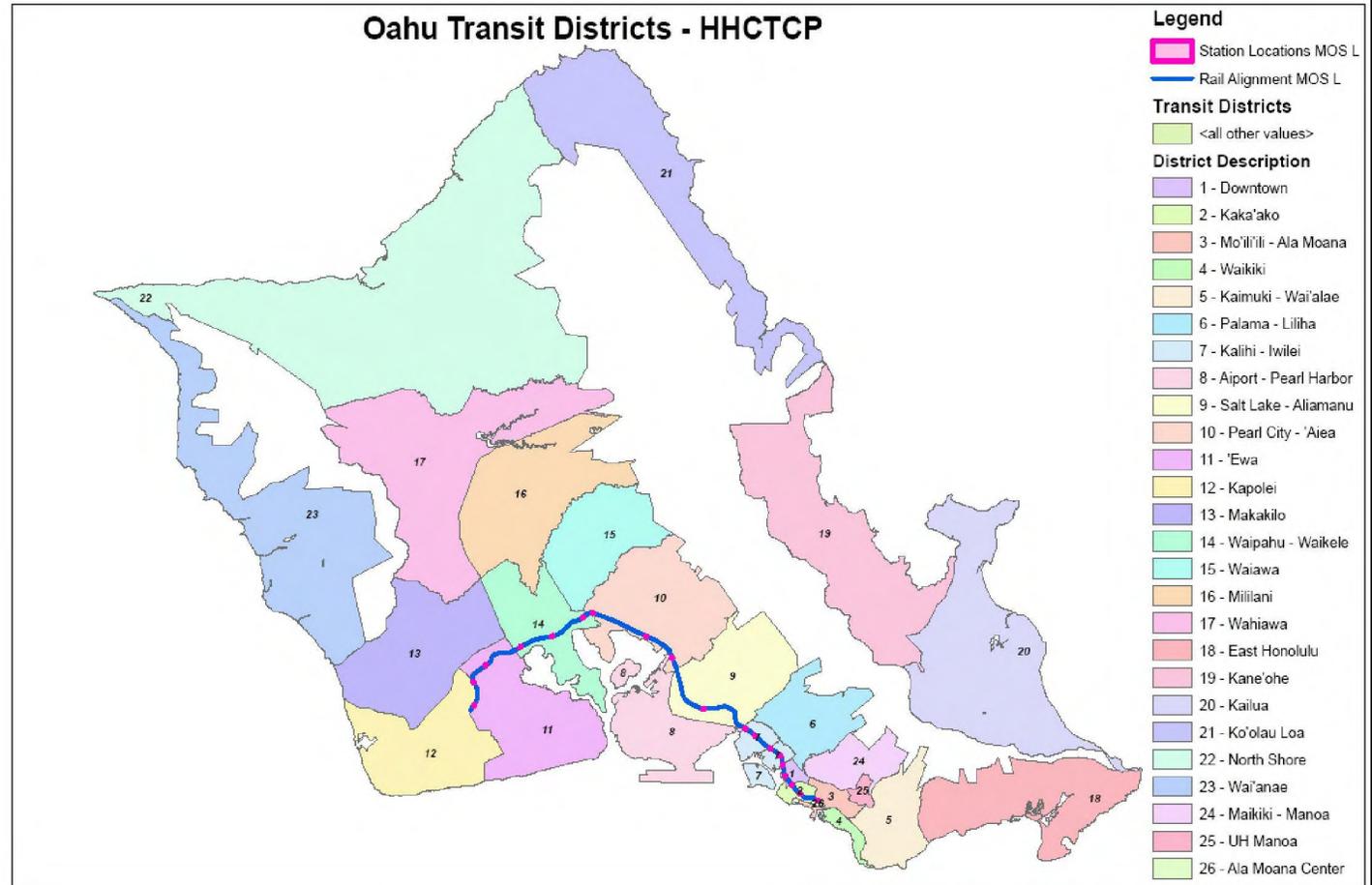
Honolulu Rail Transit Project

Honolulu On The Move 

566-2299 | www.honolulustransit.org

Identification

20-Mile Rail
Transit Line in
Exclusive
Right-of-Way
from West
O'ahu to
Honolulu
Urban Core



Honolulu On The Move

566-2299

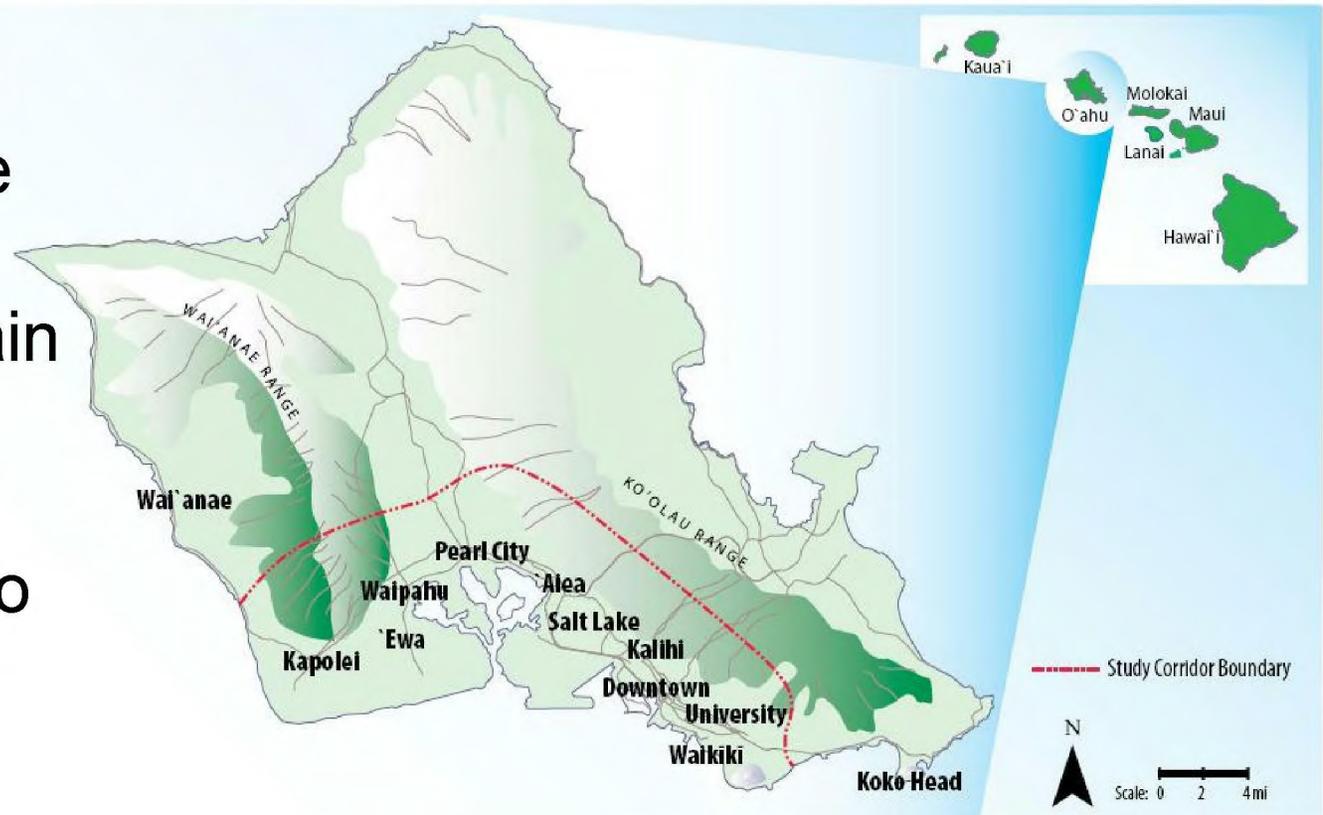
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In the next xx minutes, I will give you an overview of where we are now with the Honolulu Rail Transit Project, where we are going and what you can expect in the future.

Setting

Corridor is the Southern Shore of O'ahu

Bounded by the Wai'anae and Ko'olau Mountain Ranges to the North and the Pacific Ocean to the South.



- Extensive island-wide bus system
- Limited system of high-capacity highway facilities

Purpose of the Project

- To provide the traveling public with ***faster, more reliable public transportation service*** in the corridor than can be achieved with buses operating in congested mixed-flow traffic
- To ***provide basic mobility*** in areas of the corridor ***where people of limited income live***
- To better serve rapidly developing areas of the corridor
- The project also provides an alternative to private automobile travel and improves transit linkages within the corridor

Current Conditions

At time of latest on-board transit survey
(December 2005/January 2006)

- O‘ahu Resident Population ~ 910,000
 - 63% in corridor
- O‘ahu Visitors on an average day ~ 100,000
- O‘ahu Employment ~ 525,000
 - 82% in corridor
- Average Weekday Person Trips ~ 3,090,000
 - 83% with one or both ends in corridor
- Average Weekday Transit Trips ~ 180,000
 - 91% with one or both ends in corridor
- Average Weekday Transit Share ~ 5.8%
 - 6.3% for trips with one or both ends in corridor

Current Conditions

	Total Trips	Transit Trips	Transit Share
– Home-Based Work	~ 17%	~ 36%	(~ 12%)
– Home-Based Other	~ 37%	~ 25%	(~ 4%)
– Home-Based School	~ 9%	~ 15%	(~ 9%)
– Non-Home-Based	~ 25%	~ 14%	(~ 3%)
– Visitor	<u>~ 12%</u>	<u>~ 10%</u>	(~ 5%)
	100%	100%	

- Significant Saturday Transit Demand – Average Saturday Transit Trips are 60% of Average Weekday Transit Trips
- Significant Sunday Transit Demand – Average Sunday Transit Trips are 40% of Average Weekday Transit Trips

Current Conditions

Key Transit Markets

(and Transit Share of Total Trips)

– HB Work to Downtown	17,500	(~26%)
– HB Work to Kaka‘ako	3,900	(~16%)
– HB Work to Mo‘ili‘ili	4,400	(~14%)
– HB Work to Waikīkī	5,500	(~14%)
– HB Work to Kalihi	4,800	(~12%)
– HB Work from ‘Ewa	1,700	(~7%)
– HB Work from Kapolei	700	(~8%)
– HB Work from Waipahu	2,100	(~8%)
– HB Work from Mililani	2,300	(~7%)
– HB Other to Downtown	6,400	(~9%)
– HB School to UH Mānoa	4,600	(~18%)
– Visitor from Waikīkī	14,200	(~4%)

Approximately 38% of all transit trips

Current Conditions

- AM Peak Two-Hour Travel Across Kalauao Stream North of Pearl Harbor
 - 79,000 person trips
 - 82% eastbound; 18% westbound
 - 7% on transit
 - 84% eastbound; 16% westbound
- AM Peak Two-Hour Travel Across Kapalama Stream in Kalihi
 - 86,000 person trips
 - 65% eastbound; 35% westbound
 - 11% on transit
 - 68% eastbound; 32% westbound

Current Operating Conditions in Key Markets

- **HB Work to Downtown** – Typical Trip from Salt Lake
 - Auto Travel Time: **23 min.** – Transit Travel Time: **39 min.**
- **HB Work to Waikīkī** – Typical Trip from Waipahu
 - Auto Travel Time: **65 min.** – Transit Travel Time: **85 min.**
- **HB Work to Kalihi** – Typical Trip from ‘Aiea
 - Auto Travel Time: **26 min.** – Transit Travel Time: **51 min.**
- **HB Work to Kaka‘ako** – Typical Trip from ‘Ewa
 - Auto Travel Time: **87 min.** – Transit Travel Time: **102 min.**
- **HB Work to Mo‘ili‘ili** – Typical Trip from Waipahu
 - Auto Travel Time: **59 min.** – Transit Travel Time: **91 min.**
- **HB Work from ‘Ewa** – Typical Trip to Airport
 - Auto Travel Time: **74 min.** – Transit Travel Time: **114 min.**

Current Operating Conditions in Key Markets

- **HB Work from Kapolei** – Typical Trip to Waikīkī
 - Auto Travel Time: **91 min.** – Transit Travel Time: **114 min.**
- **HB Work from Waipahu** – Typical Trip to Downtown
 - Auto Travel Time: **54 min.** – Transit Travel Time: **76 min.**
- **HB Work from Mililani** – Typical Trip to Downtown
 - Auto Travel Time: **80 min.** – Transit Travel Time: **105 min.**
- **HB Other to Downtown** – Typical Trip from Salt Lake
 - Auto Travel Time: **15 min.** – Transit Travel Time: **34 min.**
- **HB School to UH Mānoa** – Typical Trip from ‘Aiea
 - Auto Travel Time: **38 min.** – Transit Travel Time: **73 min.**
- **Visitor from Waikīkī** – Typical Trip to Pearl Harbor
 - Auto Travel Time: **23 min.** – Transit Travel Time: **68 min.**

Conditions in 2030

- 22% increase in O‘ahu’s population, and 21% increase in employment.
- Rapid growth in West O‘ahu: ‘Ewa, Kapolei, Makakilo, and Waiawa
 - 131% increase in population to 223,000 people
 - 163% increase in employment to 84,000 jobs
- Primary urban core still has the highest number of jobs: 320,000 jobs (51%)

Conditions in 2030

- O‘ahu Resident Population ~ 1,115,000
 - 69% in corridor
- O‘ahu Employment ~ 635,000
 - 84% in corridor
- O‘ahu Visitors on an average day ~ 130,000
- Average Weekday Person Trips ~ 3,885,000
 - 86% with one or both ends in corridor
- Average Weekday No Build Transit Trips ~ 225,000
 - 92% with one or both ends in corridor
- Average Weekday Transit Share ~ 5.8%
 - 6.2% for trips with one or both ends in corridor

Conditions in 2030

Key Transit Markets

(and Transit Share of Total Trips)

– HB Work to Downtown	18,200	(~24%)
– HB Work to Kaka‘ako	5,400	(~14%)
– HB Work to Mo‘ili‘ili	5,100	(~13%)
– HB Work to Waikīkī	6,300	(~13%)
– HB Work to Kalihi	5,900	(~13%)
– HB Work from ‘Ewa	4,000	(~9%)
– HB Work from Kapolei	2,900	(~11%)
– HB Work from Waipahu	2,800	(~10%)
– HB Work from Mililani	2,700	(~8%)
– HB Other to Downtown	6,400	(~8%)
– HB School to UH Mānoa	5,600	(~20%)
– Visitor from Waikīkī	14,400	(~5%)

Approximately 35% of all transit trips

Conditions in 2030

- AM Peak Two-Hour Travel Across Kalauao Stream North of Pearl Harbor
 - 88,000 person trips
 - 80% eastbound; 20% westbound
 - 8% on transit
 - 82% eastbound; 18% westbound
- AM Peak Two-Hour Travel Across Kapalama Stream in Kalihi
 - 97,000 person trips
 - 58% eastbound; 42% westbound
 - 11% on transit
 - 63% eastbound; 37% westbound

2030 Operating Conditions in Key Markets

- **HB Work to Downtown** – Typical Trip from Salt Lake
 - Auto Travel Time: **25 min.** – Transit Travel Time: **41 min.**
- **HB Work to Waikīkī** – Typical Trip from Waipahu
 - Auto Travel Time: **77 min.** – Transit Travel Time: **85 min.**
- **HB Work to Kalihi** – Typical Trip from ‘Aiea
 - Auto Travel Time: **31 min.** – Transit Travel Time: **54 min.**
- **HB Work to Kaka‘ako** – Typical Trip from ‘Ewa
 - Auto Travel Time: **103 min.** – Transit Travel Time: **104 min.**
- **HB Work to Mo‘ili‘ili** – Typical Trip from Waipahu
 - Auto Travel Time: **71 min.** – Transit Travel Time: **82 min.**
- **HB Work from ‘Ewa** – Typical Trip to Airport
 - Auto Travel Time: **86 min.** – Transit Travel Time: **115 min.**

2030 Operating Conditions in Key Markets

- **HB Work from Kapolei** – Typical Trip to Waikīkī
 - Auto Travel Time: **108 min.** – Transit Travel Time: **119 min.**
- **HB Work from Waipahu** – Typical Trip to Downtown
 - Auto Travel Time: **66 min.** – Transit Travel Time: **66 min.**
- **HB Work from Mililani** – Typical Trip to Downtown
 - Auto Travel Time: **89 min.** – Transit Travel Time: **98 min.**
- **HB Other to Downtown** – Typical Trip from Salt Lake
 - Auto Travel Time: **15 min.** – Transit Travel Time: **35 min.**
- **HB School to UH Mānoa** – Typical Trip from 'Aiea
 - Auto Travel Time: **46 min.** – Transit Travel Time: **80 min.**
- **Visitor from Waikīkī** – Typical Trip to Pearl Harbor
 - Auto Travel Time: **23 min.** – Transit Travel Time: **69 min.**

Case for the Project

- Low-cost alternative
 - Expansion of local and express bus services
 - Additional park-and-ride facilities
 - Mixed-traffic operations
 - An increase of 9,500 transit riders/day over No-Build
 - 11,000 hours/day saved
 - **Key limitation:** long and unreliable travel times because of congested highways

Case for the Project

- Proposed project
 - 20-mile urban rail line in exclusive right-of-way
 - 19 stations (4 park-and-ride with 4,100 spaces)
 - 3-minute peak headway;
6-minute base headway;
10-minute evening/night headway

Case for the Project

2030 Transit Travel Times

- **HB Work to Downtown** – Typical Trip from Salt Lake
 - Baseline Travel Time: **41 min.** – Project Travel Time: **26 min.**
- **HB Work to Waikīkī** – Typical Trip from Waipahu
 - Baseline Travel Time: **83 min.** – Project Travel Time: **52 min.**
- **HB Work to Kalihi** – Typical Trip from ‘Aiea
 - Baseline Travel Time: **54 min.** – Project Travel Time: **27 min.**
 - .
- **HB Work to Kaka‘ako** – Typical Trip from ‘Ewa
 - Baseline Travel Time: **99 min.** – Project Travel Time: **65 min.**
- **HB Work to Mo‘ili‘ili** – Typical Trip from Waipahu
 - Baseline Travel Time: **80 min.** – Project Travel Time: **41 min.**
- **HB Work from ‘Ewa** – Typical Trip to Airport
 - Baseline Travel Time: **111 min.** – Project Travel Time: **65 min.**

Case for the Project

2030 Transit Travel Times

- **HB Work from Kapolei** – Typical Trip to Waikīkī
 - Baseline Travel Time: **119 min.** – Project Travel Time: **72 min.**
- **HB Work from Waipahu** – Typical Trip to Downtown
 - Baseline Travel Time: **63 min.** – Project Travel Time: **33 min.**
- **HB Work from Mililani** – Typical Trip to Downtown
 - Baseline Travel Time: **81 min.** – Project Travel Time: **55 min.**
- **HB Other to Downtown** – Typical Trip from Salt Lake
 - Baseline Travel Time: **35 min.** – Project Travel Time: **31 min.**
- **HB School to UH Mānoa** – Typical Trip from 'Aiea
 - Baseline Travel Time: **79 min.** – Project Travel Time: **50 min.**
- **Visitor from Waikīkī** – Typical Trip to Pearl
 - Baseline Travel Time: **69 min.** – Project Travel Time: **62 min.**

Case for the Project

- 2030 AM Peak Two-Hour Travel Across Kalauao Stream North of Pearl Harbor
 - 13,600 transit trips (7,500 in Baseline)
 - 11,900 eastbound; 1,700 westbound
 - 12,400 on rail (11,300 eastbound; 1,100 westbound)
- 2030 AM Peak Two-Hour Travel Across Kapalama Stream in Kalihi
 - 16,400 transit trips (11,200 in Baseline)
 - 12,400 eastbound; 4,000 westbound
 - 12,700 on rail (11,100 eastbound; 1,600 westbound)

Case for the Project

Key Transit Markets

(and Transit Share of Total Trips)

– HB Work to Downtown	20,900	(~28%)
– HB Work to Kaka‘ako	6,600	(~18%)
– HB Work to Mo‘ili‘ili	6,300	(~16%)
– HB Work to Waikīkī	9,200	(~19%)
– HB Work to Kalihi	7,100	(~16%)
– HB Work from ‘Ewa	7,300	(~16%)
– HB Work from Kapolei	4,500	(~17%)
– HB Work from Waipahu	4,700	(~17%)
– HB Work from Mililani	4,000	(~13%)
– HB Other to Downtown	6,600	(~8%)
– HB School to UH Mānoa	8,000	(~28%)
– Visitor from Waikīkī	15,600	(~5%)

Approximately 38% of all transit trips

Case for the Project

- **Transit Trips**
 - 32,000 more weekday riders than in Baseline
- **Rail Ridership**
 - 87,300 average weekday boardings
- **User benefits**
 - 49,800 hours/day saved

Case for the Project

- User benefits

- 49,800 hours/day saved

- 23,600 HB Work
- 6,000 HB Other
- 9,300 HB School
- 8,500 NHB
- 2,400 Visitor

- 21% by 0 car HHs (0 car HHs 14% of all HHs)

- 37% by 1 car HHs (1 car HHs 38% of all HHs)

- 42% by 2+ car HHs (2+ car HHs 48% of all HHs)

Case for the Project

User Benefits (Hours per Day) in Key Transit Markets

– HB Work to Downtown	3,980	31.7 min/trip
– Visitor from Waikīkī	830	9.7 min/trip
– HB Other to Downtown	470	19.4 min/trip
– HB Work to Waikīkī	2,830	34.2 min/trip
– HB Work to Kalihi	1,570	28.6 min/trip
– HB School to UH Mānoa	2,940	36.0 min/trip
– HB Work to Kaka‘ako	1,490	31.2 min/trip
– HB Work to Mo‘ili‘ili	1,270	33.9 min/trip
– HB Work from ‘Ewa	2,850	37.6 min/trip
– HB Work from Kapolei	1,580	43.5 min/trip
– HB Work from Waipahu	1,820	32.7 min/trip
– HB Work from Mililani	1,370	35.7 min/trip

Approximately 46% of all user benefits

Case for the Project

- Cost effectiveness
 - Capital: \$3.989 billion in 2008 dollars
 - Added O&M cost: \$15 million/year
 - Time savings: 15,328,900 hours/year
 - \$19.87 per hour of time savings
 - Competitive for federal funding

Risks and Uncertainties

- Ridership and transportation benefits
 - Sources of risk
 - Changes in population and employment forecasts
 - Changes in assumed operating characteristics
 - Changes in assumed fare
 - Aspects that help contain risk
 - Stepwise Build-up of Forecasts
 - 60,000 fixed-guideway riders with no change in 2005 demand
 - 72,000 riders if system existed in 2005 with **80%** of the 2030 User Benefits
 - Sensitivity test of alternate headways
 - Sensitivity test of alternate fares

Risks and Uncertainties

- Costs
 - Sources of risk
 - Uncertain economic climate in Hawai'i and worldwide
 - No local contractor experience with rail transit implementation in Honolulu
 - City and County of Honolulu hasn't built a rail transit project before
 - Aspects that help contain risk
 - RTD and GEC staff are monitoring price trends and will examine value engineering opportunities
 - The largest cost element of the project will be the guideway structure and two major segmental viaducts were built in Hawai'i as part of H-3
 - The City and County of Honolulu has built large non-transit projects in the past

Mahalo!

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Thank you for your time. Are there any questions?