Appendix D: Risk Register

The Risk Register is transmitted as a separate file (Appendix D-Aug 2011 Risk Register.pdf).

PROJECT RISK REGISTER

Honolulu High-Capacity Transit Corridor Project

Date Issue: August 2011

Rev. 6

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1	90	Project Wide	Market	Escalation may be higher than projected.		1	5	0	2.5	2.5
10	20.07	Project Wide	Design	Elevator design criteria presented to the public is unacceptable and results in additional elevators.		1	5	1	3	3
100	10.04	Airport Guideway	Requirements	This portion of the alignment crosses over Ceded land which may cause a shift of the alignment.	According to ceded land requirements, ceded land is allowed to be used for public purpose. Will be resolved by FD.	2	3	4	7	7
101	60.01	Right of Way	Design	Slight change in alignment could cause changes in required ROW which has not been included in estimate, schedule or EIS. (Depending on changes property needs could increase or decrease.)	Outstanding since design is not complete.	2	4	3	7	7
102	40.03	Airport Stations	Geotech/Early Const	Gas station at Lagoon Drive Station entrance may have contaminated material and could result in additional costs.	Once acquisition of property begins, a Phase I study will be done which will determine if a Phase II study is required.	3	1	0	1.5	1.5
103	40.03	Airport Guideway	Geotech/Early Const	Discovery of unexploded munitions disrupts construction.		1	2	1	1.5	1.5
104	10.04	Airport Guideway	Design	Staging, schedule and cost may be greater than assumed for the Keehi interchange.		2	3	0	3	3
105	40.02	Airport Guideway	Geotech/Early Const	Unforeseen Federal and/or Military cables or fuel lines may result in alignment relocation or costly column span.		2	3	2	5	5

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106	10.04	Airport Guideway	Requirements	The guideway has a high skew with respect to the roads in the area of the inter island terminal parking access ramp and the Paiea underpass connecting with Aolele which may require special structures.		1	1	0	0.5	0.5
107	10.08	Airport Guideway	Construction	Segment routes may suffer settlement and general damage (including utilities) to surface due to excessive loads and require replacement and or re-surfacing.		2	2	0	2	2
108	10.04	City Center Guideway	Requirements	Alignment passes near a Federal building, which may raise homeland security concerns and results in additional design and cost.	TVA completed and issue is still outstanding. Environ/Safety group met with GSA, the judges, etc. on Aug. 10th.	5	2	0	5	5
109	60.01	Right of Way	Design	Slight change in alignment could cause changes in required ROW, which has not been included in estimate, schedule, or EIS. (Depending on changes, property needs could increase or decrease).	Outstanding since design is not complete.	3	4	2	9	9
11	40.02	Project Wide	TCC	There may be insufficient utility company resources available to meet the design, approvals, and/or construction schedule. (Public Utilities - water, sewer, storm drain)		3	3	2	7.5	7.5
110	60.01	Right of Way	Design	Kaka'ako Station currently requires partial demolition which has yet to be discussed with owner and may result in additional costs and delays.	Outstanding since design is not complete.	2	3	0	3	3
111	40.03	City Center Guideway	Geotech/Early Const	Nimitz Highway (1 mile) known to be contaminated from old fuel line leaks and utility excavations may lead to significant volumes of excavated soil.		5	3	0	7.5	7.5

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112	40.04	City Center Guideway	NEPA	If numerous iwi are found constituting a burial ground, the location could be eligible for inclusion in the National Register of Historic Places, which could require realignment of guideway.		1	5	5	5	5
113	40.02	City Center Guideway	Requirements	Halekauwila Street has very limited space, and if additional relocation is identified from what is currently planned, either rerouting or additional ROW may be required.		2	3	4	7	7
114	40.02	City Center Guideway	Design	Fuel line at proposed alignment on Nimitz Highway may require alternative design solution.		2	1	2	3	3
115	40.02	City Center Guideway	Geotech/Early Const	Unforeseen Federal and/or Military cables or fuel lines may result in alignment relocation or costly column span.		2	3	4	7	7
116	40.02	City Center Guideway	Design	Assumption is water mains will be relocated around columns by addition of bends; this may not be allowed by BWS.	Quantity of impacts will not be known until final design. City standard is 5' and BWS is 10'. There is limited space available to relocate all utilities as expected by BWS and there will most likely need to be some negotiations.	5	3	2	12.5	12.5
117	40.02	City Center Guideway	Design	The relocation of the 138 kv overhead power lines may require new lines erected to provide redundancy during the 'outage.' (Temporary diversion of the 138kV line may be required if grid capacity is insufficient.)	138kV issue will not be reviewed until CC Final Designer is on board.	3	4	1	7.5	7.5

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118	10.08	City Center Guideway	Construction	Segment routes may suffer settlement and general damage (including utilities) to surface due to excessive construction equipment loads and require replacement and or re-surfacing.		5	4	0	10	10
119	40.08	City Center Guideway	Construction	Access to Honolulu Community College may be restricted by construction and noise levels may need to be mitigated while school is in session.		3	2	0	3	3
11a	40.02	West Oahu/Farrington Highway Guideway	Design	There may be insufficient Utility company resources available to meet the design, approvals, and/or construction schedule. (Public Utilities - water, sewer, storm drain)		3	2	2	6	6
11b	40.02	Kamehameha Highway Guideway	Design	There may be insufficient Utility company resources available to meet the design, approvals and/or construction schedule. (Public Utilities - water, sewer, storm drain)		3	2	2	6	6
11d	40.02	Airport Guideway	TCC	There may be insufficient utility company resources available to meet the design, approvals, and/or construction schedule. (Public Utilities - water, sewer, storm drain)	HECO does not have the resources for construction. BWS also does not have the required resources at this time.	3	3	2	7.5	
11e	40.02	City Center Guideway	TCC	There may be insufficient utility company resources available to meet the design, approvals, and/or construction schedule. (Public Utilities - water, sewer, storm drain)	HECO does not have the resources for construction. BWS also does not have the required resources at this time.	3	3	2	7.5	
12	40.02	Project Wide	TCC	More fiber optic cable lines than estimated may need to be relocated (number and type of cables in ducts to be relocated not known).	No more information available at this time.	4	3	2	10	10

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120	20.02	City Center Stations	Requirements	Redesign of station access for Downtown Station may be required due to objections.		1	3	3	3	3
121	40.08	City Center Guideway	Requirements	This area contains a major bus interface and access to the parking structure of Ala Moana Center. Traffic impacts must be mitigated, and bus operations must be continued.		5	3	0	7.5	7.5
122	60.01	Right of Way	Design	Kapalama Entrance may be a concern due to proximity to adjacent ROW.	Outstanding since design is not complete.	3	1	2	4.5	4.5
123	60.01	Right of Way	Design	Ala Moana Center Station has ROW issues that have yet to be discussed with owner and may result in additional costs and delays.	Do not have everything finalized with the location and design of the Ala Moana station.	5	3	0	7.5	7.5
124	40.04	City Center Stations	Requirements	Given that Downtown Station is in a historic district, community needs may cause additional costs and possible delays.		2	2	0	2	2
125	40.04	City Center Stations	Requirements	Given that Chinatown Station is in a historic district, community needs may cause additional costs and possible delays.		2	2	0	2	2
126	60.01	Right of Way	Requirements	Properties at Pearl Highlands Station and Guideway may be more difficult than currently assumed, increasing costs and ROW schedule. (Banana Patch)	All offers for the properties at Pearl Highlands have been accepted, except for 1. Relocation is also currently going along well.	3	3	0	4.5	4.5
127	60.01	Right of Way	Requirements	May need to buy property for Park and Ride at UH West Oahu.	Still outstanding.	5	3	0	7.5	7.5

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128	60.01	Right of Way	Requirements	Property required at UH currently assumes donation. However, there is a possibility that UH may require property to be bought.	Still outstanding.	2	3	0	3	3
129	20.02	Right of Way	Design	Currently designed realignment of easement at West Loch Station has not been accepted by adjacent property owners and could result in design delays if unaccepted.	This property was acquired at the end of July. Risk is removed.					1.5
12a	40.02	West Oahu/Farrington Highway Guideway	Design	More fiber optic cable lines (or other overhead lines) than estimated may be need to be relocated (number and type of cables in ducts to be relocated not known).	WOFH has a change order in right now for fiber optics.	4	3	1	8	8
12b	40.02	Kamehameha Highway Guideway	Design	More fiber optic cable lines than estimated may need to be relocated (number and type of cables in ducts to be relocated not known).		2	3	0	3	3
12d	40.02	Airport Guideway	Design	More fiber optic cable lines than estimated may need to be relocated (number and type of cables in ducts to be relocated not known).	Utility contracts for Airport and CC are separate from guideway construction contract.	3	3	1	6	
12e	40.02	City Center Guideway	Design	More fiber optic cable lines than estimated may need to be relocated (number and type of cables in ducts to be relocated not known).	Utility contracts for Airport and CC are separate from guideway construction contract.	4	3	1	8	
13	40.02	Project Wide	Geotech/Early Const	Old electrical and other utilities may contain asbestos which will require HAZMAT disposal.		4	4	1	10	10

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130	60.01	Right of Way	Design	Relocation of business at W. Loch Station may take longer than anticipated. (Farrington Stations Group)	Have made an offer at a substitute property for the business at W. Loch Station.	1	2	3	2.5	2.5
131	40.04	Kamehameha Highway Stations	Geotech/Early Const	Extensive rain could, because of potential flooding of the work site, affect construction schedule at the Pearl Highlands Station area.		2	2	1	3	3
132	40.04	West Oahu Stations	Design	Natural drainage at Ho'opili Station may need to be addressed by project if DR Horton development does not do it, which would result in additional costs to the project.		5	1	0	2.5	2.5
133	20.02	West Oahu Stations	Design	East Kapolei Station design could change, based on hydraulic and geotech study, and additional costs may be incurred.		2	3	1	4	4
134	20.02	Farrington Highway Stations	Design	Waipahu Station is located in the floodplain and the design has yet to be approved by DPP, which could result in a delay due to redesign.		5	2	1	7.5	7.5
135	20.02	West Oahu Stations	Design	UH West Oahu Station design could change, based on hydraulic and geotech study, and additional costs may be incurred.		2	3	1	4	4
136	20.02	Farrington Highway Stations	Design	Systems interfaces at Farrington stations may result in claims delay by Station designer.		4	1	2	6	6

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137	20.02	West Oahu Stations	Requirements	Current assumption is that developer adjacent to UH West O'ahu Station will build a roadway bridge and road to access the parking lot and bus transfer facility. If they do not build this, it will result in additional costs to project.		3	4	0	6	6
138	50	Core Systems Contract	Market	Core Systems Contract may require rebid based on DCCA's decision, which is expected by mid August 2011.	Risk has been deleted. Protest was denied by the City, which resulted in the contractor's appealing to DCCA. DCCA denied the appeals submitted by both Bombardier (Aug. 5) and Sumitomo (Aug. 15).					5
139	40.04	Project wide	NEPA	AIS may delay City Center Guideway and ultimately project completion.		2	4	3	7	7
139a	40.04	Airport Guideway	NEPA	AIS may delay start of guideway construction and result in additional costs and schedule delays.	Duration for the AIS of the Airport section is less than a year and is not on the critical path. Section is easier than the City Center section and AIS is not expected to impact Airport guideway construction.	2	3	2	5	
13a	40.02	West Oahu/Farrington Highway Guideway	Geotech/Early Const	Old electrical and other utilities may contain asbestos which will require HAZMAT disposal.		3	3	1	6	6
13b	40.02	Maintenance & Storage Facility Contract	Geotech/Early Const	Old electrical and other utilities may contain asbestos which will require HAZMAT disposal.	Nothing has been identified at this time. Cost has been reduced to less than $250k and schedule impact is 0 months.	1	1	0	0.5	1.5
13c	40.02	Kamehameha Highway Guideway	Geotech/Early Const	Old electrical and other utilities may contain asbestos which will require HAZMAT disposal.		3	3	1	6	6

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13d	40.02	Airport Guideway	Geotech/Early Const	Old electrical and other utilities may contain asbestos which will require HAZMAT disposal.		4	3	1	8	
13e	40.02	City Center Guideway	Geotech/Early Const	Old electrical and other utilities may contain asbestos which will require HAZMAT disposal.		4	3	1	8	
14	40.02	Project Wide	Construction	IF HDOT Use and Occupancy Agreement with utility owners is needed, it could delay utility relocations in the state ROW.		2	3	3	6	6
140	90	Project wide	Market	Based on a recently passed bill , GET exemptions would be suspended and result in additional tax payments by contractors which have not been accounted for in estimate.	Suspension of extensions would go from Jan. 1, 2012 to June 30, 2015. Based on review, city lawyers believe if a contract was executed, signed or awarded by July 1, 2011, then the basic contract and any changes to that contract are grandfathered in.	5	5	0	12.5	12.5
140d	90	Airport Guideway	Market	Based on a recently passed bill , GET exemptions would be suspended and result in additional tax payments by contractors which have not been accounted for in estimate.		5	5	0	12.5	
140e	90	City Center Guideway	Market	Based on a recently passed bill , GET exemptions would be suspended and result in additional tax payments by contractors which have not been accounted for in estimate.		5	5	0	12.5	
141	50	Project Wide	Design	Fixed facilities contracts incur additional design costs due to NTP delay for CSC.		2	3	2	5	5

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142	10.04	Project Wide	Design	Pedestrian bridge clearance over HDOT ROW may need to be raised to meet HDOT minimum requirements (17.5') which would result in additional costs due to redesign of either the pedestrian bridge or guideway.	Change Control Board approved a process forward on July 19, 2011.	4	3	1	8	8
142a	10.04	West Oahu/Farrington Highway Guideway	Design	Pedestrian bridge clearance over HDOT ROW may need to be raised to meet HDOT minimum requirements (17.5') which would result in additional costs due to redesign of either the pedestrian bridge or guideway.		4	3	1	8	8
142b	10.04	Kamehameha Highway Guideway	Design	Pedestrian bridge clearance over HDOT ROW may need to be raised to meet HDOT minimum requirements (17.5') which would result in additional costs due to redesign of either the pedestrian bridge or guideway.	Only location that will require redesign is at Pearl Ridge. Currently reviewing design to determine what is needed.	4	2	1	6	6
143	60.01	City Center Guideway	Requirements	Inability to receive all required consents to enter to do archaeological investigation of interior buildings may cause delays to AIS.	AIS for WOFH is done. AIS for KHG is complete. Issue in City Center is the numerous investigations that must be done in buildings, which require consent by the owner. If owner says no, will need to go to SHPD for an answer as to what to do. Currently mitigating the issue by working to acquire 6 properties that require AIS in interior building.	2	2	2	4	4
144	90	Project Wide	Construction	Unforeseen special events not listed in SPs may cause delays to construction or add MOW costs.	Upcoming event to be an issue would be APEC, which may result in limited construction activity due to security.	2	3	1	4	

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145	90	Kamehameha Highway Guideway	Design	Delay to issue NTP results in claims for additional costs.	Total delay is about 80 days. Expected NTP was April and received it in July. Currently awaiting schedule of milestones from Kiewit. Currently there is one station interface date that is a concern and may require an accelerated schedule or different means and method which would result in more cost.	4	2	2	8	
14a	40.02	West Oahu/Farrington Highway	Construction	IF HDOT Use and Occupancy Agreement with utility owners is needed, it could delay utility relocations in the state ROW.		2	2	2	4	4
14b	40.02	Kamehameha Highway Guideway	Construction	IF HDOT Use and Occupancy Agreement with utility owners is needed, it could delay utility relocations in the state ROW.		1	2	1	1.5	1.5
14d	40.02	Airport Guideway	Construction	IF HDOT Use and Occupancy Agreement with utility owners is needed, it could delay utility relocations in the state ROW.	Once WOFH and KHG are complete, the risk will be reduced forAirport and City Center sections.	2	2	2	4	
14e	40.02	City Center Guideway	Construction	IF HDOT Use and Occupancy Agreement with utility owners is needed, it could delay utility relocations in the state ROW.	Once WOFH and KHG are complete, the risk will be reduced forAirport and City Center sections.	2	2	2	4	
15	40.02	Project Wide	Geotech/Early Const	The Contractor may sever one or more utilities during construction resulting in a stoppage of work and impacting not only itself, but other concurrent contractors.	Probability reduced from 50% to 25% due to the preventative measures that are taken prior to construction.	2	2	1	3	4.5
15d	40.02	Airport Guideway	Geotech/Early Const	The Contractor may sever one or more utilities during construction resulting in a stoppage of work and impacting not only itself, but other concurrent contractors.	Contractors need to do one call prior to start of digging, which reduces the probability of the risk occurring.	2	2	1	3	

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15e	40.02	City Center Guideway	Geotech/Early Const	The Contractor may sever one or more utilities during construction resulting in a stoppage of work and impacting not only itself, but other concurrent contractors.	Contractors need to do one call prior to start of digging, which reduces the probability of the risk occurring.	2	2	1	3	
16	40.02	Project Wide	Requirements	Agreements with all utility owners are not yet in place, and subsequent agreements may expose the City to unforeseen costs and schedule impacts.	As process goes on with WOFH, agreements should become easier to obtain for other sections. HECO is the most critical in getting an agreement. WOFH is still working to get an agreement in place for them to do HECO's work.	3	4	3	10.5	10.5
16a	40.02	West Oahu/Farrington Highway Guideway	Requirements	Agreements with all utility owners are not yet in place, and subsequent agreements may expose the City to unforeseen costs and schedule impacts.	Have most agreements for design. The only agreements received for construction are with the gas and fuel lines at WOFH. The relocations for these started mid-August. There are a total of 9 different companies to coordinate with.	4	3	2	10	10
16c	40.02	Kamehameha Highway Guideway	Requirements	Agreements with all utility owners are not yet in place, and subsequent agreements may expose the City to unforeseen costs and schedule impacts.		2	3	2	5	5
16d	40.02	Airport Guideway	Requirements	Agreements with all utility owners are not yet in place, and subsequent agreements may expose the City to unforeseen costs and schedule impacts.		2	2	2	4	
16e	40.02	City Center Guideway	Requirements	Agreements with all utility owners are not yet in place, and subsequent agreements may expose the City to unforeseen costs and schedule impacts.		2	2	2	4	
17	40.02	Project Wide	Requirements	Current assumption that new utilities can be carried in, along, under existing bridge structures may not be allowed.		1	3	0	1.5	1.5

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17b	40.02	Kamehameha Highway Guideway	Requirements	Current assumption that new utilities can be carried in, along, under existing bridge structures may not be allowed.		1	3	0	1.5	1.5
17d	40.02	Airport Guideway	Requirements	Current assumption that new utilities can be carried in, along, under existing bridge structures may not be allowed.		1	2	0	1	
17e	40.02	City Center Guideway	Requirements	Current assumption that new utilities can be carried in, along, under existing bridge structures may not be allowed.		1	2	0	1	
18	40.02	Project Wide	Requirements	Ongoing/upcoming city and or state projects may require modifications to utility relocation designs.	Widening of Farrington Highway is currently being planned.	3	3	2	7.5	7.5
18a	40.02	West Oahu/Farrington Highway	Requirements	Ongoing/upcoming city and or state projects may require modifications to utility relocation designs.	Widening of Farrington Highway is currently being planned and will most likely require additional Project co-ordination.	4	2	2	8	8
18d	40.02	Airport Guideway	Requirements	Ongoing/upcoming city and or state projects may require modifications to utility relocation designs.	Airport FD to be complete by early 2013.	2	2	2	4	
18e	40.02	City Center Guideway	Requirements	Ongoing/upcoming city and or state projects may require modifications to utility relocation designs.	Start of CC design is still a year out.	2	2	2	4	
1a	90	West Oahu/Farrington Highway Guideway	Market	Escalation may be higher than projected.		3	4	0	6	6

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1b	90	Kamehameha Highway Guideway	Market	Escalation may be higher than projected. - Steel, Concrete and Asphalt.		3	4	0	6	6
1d	90	Airport Guideway	Market	Escalation may be higher than projected.	Risk subdivided from Project wide and scored at contract level.	1	5	0	2.5	
1e	90	City Center Guideway	Market	Escalation may be higher than projected.	Risk subdivided from Project wide and scored at contract level.	1	5	0	2.5	
2	10.04	Project Wide	NEPA	Discovery of unanticipated archeological resources could result in construction delay and/or design modification to relocate columns and foundations.		1	5	4	4.5	4.5
21	40.02	Project Wide	Design	The traffic management plan approval may compromise the utility relocation schedule.	It is on contractor for DB but there are concerns with whose jurisdiction it is.	2	3	3	6	6
21d	40.02	Airport Guideway	Design	The traffic management plan approval may compromise the utility relocation schedule.	Airport Section needs approval by HDOT. Designers will do TMP.	2	2	2	4	
21e	40.02	City Center Guideway	Design	The traffic management plan approval may compromise the utility relocation schedule.	City controlled streets need coordination with DTW. There will be less coordination with HDOT. Designer will do TMP.	2	2	2	4	
22	40.03	Project Wide	Geotech/Early Const	Excavated materials may be classed as hazardous and require special disposal.		2	3	1	4	4

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22a	40.03	West Oahu/Farrington Highway Guideway	Geotech/Early Const	Excavated materials may be classified as hazardous and require special disposal.		2	3	1	4	4
22b	40.03	Kamehameha Highway Guideway	Geotech/Early Const	Excavated materials may be classified as hazardous and require special disposal.	Draft RFP1 will be released by end of August for on call haz material disposal contractor.	1	3	1	2	2
22d	40.03	Airport Guideway	Geotech/Early Const	Excavated materials may be classed as hazardous and require special disposal.		2	3	1	4	
22e	40.03	City Center Guideway	Geotech/Early Const	Excavated materials may be classed as hazardous and require special disposal.		2	3	1	4	
24	40.04	Project Wide	Design	City is unable to process the potential comments from Section 106 Consulting Parties in a timely manner and are not in compliance with the Programmatic Agreement (PA) which could cause delays to the Project.	Have been doing well with the consulting parties and 2 that were originally opponents to rail have now become proponents.	1	1	2	1.5	1.5
25	40.04	Project Wide	NEPA	Specific burial treatment plan needed if iwi are uncovered and may remain uncertain until iwi are found and may result in project delays.		1	2	3	2.5	2.5
25d	40.04	Airport Guideway	NEPA	Specific burial treatment plan needed if iwi are uncovered and may remain uncertain until iwi are found and may result in project delays.		1	2	3	2.5	
25e	40.04	City Center Guideway	NEPA	Specific burial treatment plan needed if iwi are uncovered and may remain uncertain until iwi are found and may result in project delays.		1	2	3	2.5	

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26	40.04	Project Wide	NEPA	For the Clean Water Act, the City expects to get a 404 Nationwide Permit but, depending on the Contractors' changes, they may be required to get an individual permit, which could cause delays to the Project.		1	5	5	5	5
28	40.04	Project Wide	Requirements	Permits and approvals by other agencies may not be provided in a timely manner and delay the project - FAA, FHWA, Navy, DLNR, USACE, City and State.	Right now everything is urgent for WOFH, KHG, MSF, and CC AIS. HDOH does noise permits and are holding us up. NPDES, we have 50+ Permits we asked to have the number lowered and it expedited. They refused but have 1 dedicated staff member to look at all permits. First one that was done was sent back with numerous markups. A critical permit is needed for Leeward Community College - PRU (Land use permit).	5	3	2	12.5	10
28a	40.04	West Oahu/Farrington Highway Guideway	Requirements	Permits and approvals by other agencies may not be provided in a timely manner and delay the project - FAA, FHWA, Navy, DLNR, USACE, City and State.	Should have 401 and 404 in hand, but do not. Right now everything is urgent for WOFH, KHG, MSF, and CC AIS. HDOH does noise permits and are holding us up. NPDES, we have 50 + Permits we asked to have the number lowered and it expedited. They refused but have 1 dedicated staff member to look at all permits. First one that was done was sent back with numerous markups.	4	3	2	10	6
28b	40.04	Maintenance & Storage Facility Contract	Requirements	Permits and approvals by other agencies may not be provided in a timely manner and delay the project - FAA, FHWA, Navy, DLNR, USACE, City and State.		2	2	1	3	3

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28c	40.04	Kamehameha Highway Guideway	Requirements	Permits and approvals by other agencies may not be provided in a timely manner and delay the project - FAA, FHWA, Navy, DLNR, USACE, City and State.		2	2	2	4	4
28d	40.04	Airport Guideway	Requirements	Permits and approvals by other agencies may not be provided in a timely manner and delay the project - FAA, FHWA, Navy, DLNR, USACE, City and State, etc.	Issues with permits and approvals have already arisen with both WOFH and KHG sections.	5	2	2	10	
28e	40.04	City Center Guideway	Requirements	Permits and approvals by other agencies may not be provided in a timely manner and delay the project - FAA, FHWA, Navy, DLNR, USACE, City and State, etc.	Issues with permits and approvals have already arisen with both WOFH and KHG sections.	5	2	2	10	
29	40.04	Project Wide	Design	Code changes may result in longer spans over water courses to avoid interference with flood basin, additional flood storage capacity, regrading, or combination.		1	3	0	1.5	1.5
29a	40.04	West Oahu/Farrington Highway	Design	Code changes may result in longer spans over water courses to avoid interference with flood basin, additional flood storage capacity, regrading, or combination.		1	3	0	1.5	1.5
29b	40.04	Kamehameha Highway Guideway	Design	Code changes may result in longer spans over water courses to avoid interference with flood basin, additional flood storage capacity, regrading, or combination.		1	3	0	1.5	1.5
29d	40.04	Airport Guideway	Design	Code changes may result in longer spans over water courses to avoid interference with flood basin, additional flood storage capacity, regrading, or combination.	Could involve 404 and DPP.	1	3	0	1.5	
29e	40.04	City Center Guideway	Design	Code changes may result in longer spans over water courses to avoid interference with flood basin, additional flood storage capacity, regrading, or combination.	Could involve 404 and DPP.	1	3	0	1.5	

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2a	10.04	West Oahu/Farrington Highway	NEPA	Discovery of unanticipated archeological findings could result in construction delay and/or design modification to relocate columns and foundations.		1	4	3	3.5	3.5
2b	10.04	Maintenance & Storage Facility Contract	NEPA	Discovery of unanticipated archeological findings could result in construction delay and/or design modification to foundations.		1	2	3	2.5	2.5
2c	10.04	Kamehameha Highway Guideway	NEPA	Discovery of unanticipated archeological findings could result in construction delay and/or design modification to relocate columns and foundations.		1	3	3	3	3
2d	10.04	Airport Guideway	NEPA	Discovery of unanticipated archeological findings could result in construction delay and/or design modification to relocate columns and foundations.		1	3	3	3	3
2e	10.04	City Center Guideway	NEPA	Discovery of unanticipated archeological findings could result in construction delay and/or design modification to relocate columns and foundations.	Excavation is not required for all column locations.	1	3	3	3	3
3	10.04	Project Wide	Design	HDOT reviews of Interstate Crossings are not provided in a timely manner and delay the project. (WOFH, Kamehameha, and Airport Guideway Segments).		3	2	2	6	6
30	40.04	Project Wide	NEPA	Revision to current environmental documentation to incorporate any change in the project or identified scope not specifically covered in the EIS delays project and increases costs.		3	3	3	9	9

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31	40.04	Project Wide	NEPA	Environmental documents may be required due to scope changes that may not be covered in the FEIS and may cause delays to the project. (Particularly the Casting Yard)	Decision is still pending regarding the casting yard. This risk would also be applicable to Airport and CC in regards to other possible locations for casting yard.	5	5	3	20	20
31a	40.04	West Oahu/Farrington Highway Guideway	NEPA	Environmental documents may be required due to scope changes that may not be covered in the FEIS and may cause delays to the project. (Particularly the Casting Yard)	Issue is still ongoing. Kiewit to provide the required documentation for the sites they have located (Grace and Harbors Point) along with other identified sites that were considered not an option. Once received, the documents will then be forwarded on to the FTA for further review.	5	5	4	22.5	22.5
31b	40.04	Kamehameha Highway Guideway	NEPA	Environmental documents may be required due to scope changes that may not be covered in the FEIS and may cause delays to the project. (Particularly the Casting Yard)	Decision is still pending regarding the Casting Yard. KHG's proposal states that it will use the same area as the casting yard for WOFH.	5	4	1	12.5	12.5
31d	40.04	Airport Guideway	NEPA	Environmental documents may be required due to scope changes that may not be covered in the FEIS and may cause delays to the project.	Final Design has not yet started. At this time, it is unknown what changes may occur to the scope that would require additional environmental reviews.	2	2	2	4	
31e	40.04	City Center Guideway	NEPA	Environmental documents may be required due to scope changes that may not be covered in the FEIS and may cause delays to the project.	Final Design has not yet started. At this time, it is unknown what changes may occur to the scope that would require additional environmental reviews.	2	2	2	4	
32	40.08	City Center Guideway	Construction	Hawaii Housing Finance & Development Corporation owns this property (Kaka'ako area) and may be in construction of a new housing project while HHCTCP is in construction, which would require additional coordination.	Construction has started on this housing project.	2	1	1	2	2

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33	40.07	Project Wide	Requirements	HDOT may require replacement of all existing traffic signal equipment with new.		3	4	2	9	9
33a	40.07	West Oahu/Farrington Highway Guideway	Requirements	HDOT may require replacement of all existing traffic signal equipment (and ITS cameras) with new.		3	3	0	4.5	4.5
33b	50.02	Kamehameha Highway Guideway	Design	HDOT may require replacement of all existing traffic signal equipment with new.		2	3	0	3	3
33d	40.07	Airport Guideway	Requirements	HDOT or City may require replacement of all existing traffic signal equipment with new.		3	3	1	6	
33e	40.07	City Center Guideway	Requirements	HDOT or City may require replacement of all existing traffic signal equipment with new.		3	4	1	7.5	
36	80.06	Project Wide	Market	Unanticipated litigation may add cost to the Project (e.g., protests from adversary groups, community groups, adjacent landowners, and other affected parties).		5	5	0	12.5	12.5
36d	80.06	Airport Guideway	Market	Unanticipated litigation may add cost to the Project (e.g., protests from adversary groups, community groups, adjacent landowners, and other affected parties).	Probability lower for Airport and City Center sections due to final design and construction start at least a year away.	2	5	0	5	
36e	80.06	City Center Guideway	Market	Unanticipated litigation may add cost to the Project (e.g., protests from adversary groups, community groups, adjacent landowners, and other affected parties).	Probability lower for Airport and City Center sections due to final design and construction start at least a year away.	2	5	0	5	

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38	90	Project Wide	Design	Scope may be increased based on lessons learned from initial contracts (ex. betterment, station access, utility scope, etc.).		3	3	1	6	6
38b	50	Core Systems Contract	Design	Scope may be increased based on lessons learned from operating segments (ex. betterment, station access, utility scope, etc.).		3	2	0	3	3
38d	90	Airport Guideway	Design	Scope may be increased based on lessons learned from initial contracts (ex. betterment, station access, utility scope, etc.).		3	3	1	6	
38e	90	City Center Guideway	Design	Scope may be increased based on lessons learned from initial contracts (ex. betterment, station access, utility scope, etc.).		3	3	1	6	
39	90	Project Wide	Design	Contractors may not achieve contract required delivery dates of design information and construction interfaces to others.		2	5	2	7	7
39a	90	West Oahu/Farrington Highway Guideway	Design	Late delivery of/or acceptance of civils, stations, or systems interface to guideway results in change orders.	Designer for Farrington Stations on board to give answers to proceed with design. The GEC is available to answer any questions in place of FD not being on board for CSC, WO Stations and KH Stations.	5	3	2	12.5	12.5
39b	50.01	Airport Guideway	Construction	Late delivery of / or acceptance of civils, structures or guideway contracts may delay systems installations.		1	4	3	3.5	3.5

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39c	90	Maintenance & Storage Facility Contract	Design	Late delivery of/or acceptance of systems interface to MSF results in change orders.	Due to delay of CSC, there may be certain interface delays to MSF.	3	3	3	9	9
39d	90	Kamehameha Highway Guideway	Design	Late delivery of/or acceptance of civils, stations, or systems interface to guideway results in change orders.		3	3	2	7.5	7.5
39e	50.01	City Center Guideway	Construction	Late delivery of/or acceptance of civils, structural or guideway contracts may delay systems installations.		1	4	3	3.5	3.5
39f	90	Core Systems Contract	Design	Late delivery of/or acceptance of civils, stations, or guideway interfaces to systems results in change orders.	The more Core Systems is delayed, the less impact there will be from other contracts.	4	4	2	12	12
3a	10.04	West Oahu/Farrington Highway	Design	HDOT reviews of Interstate Crossings are not provided in a timely manner and delay the project. (WOFH, Kamehameha, and Airport Guideway Segments).		3	2	2	6	6
3b	10.04	Kamehameha Highway Guideway	Design	HDOT reviews of Interstate Crossings are not provided in a timely manner and delay the project. (WOFH, Kamehameha, and Airport Guideway Segments).		3	2	2	6	6
3d	10.04	Airport Guideway	Design	HDOT reviews of Interstate Crossings are not provided in a timely manner and delay the project. (WOFH, Kamehameha, and Airport Guideway Segments).	Have an agreement with HDOT to pay the resources for WOFH and KHG.	2	2	2	4	
4	10.04	Project Wide	Requirements	Construction of high sections of guideway, e.g. crane's lifting of segments, may be significantly impacted by wind delaying schedule increasing exposure of City to claims.		1	2	2	2	2

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Rating	< =3	3.1-9.49		> =9.5	

Current ID	SCC Code	Contract Package	FTA Risk Category	Risk Description	Most Current Notes and Comments	Probability Rating	Cost Impact (A)	Schedule Delay (B)	Risk Rating %x(A+B)/2	Prior Risk Rating
40	90	Project Wide	Design	FTA may not grant an LONP for Construction prior to FFGA.		1	5	4	4.5	4.5
40a	90	West Oahu/Farrington Highway Guideway	Design	FTA may not grant an LONP for Construction prior to FFGA.		1	5	4	4.5	4.5
40b	90	Maintenance & Storage Facility Contract	Construction	FTA may not grant an LONP for Construction prior to FFGA.		1	4	4	4	4
40c	90	Kamehameha Highway Guideway	Construction	FTA may not grant an LONP for Construction prior to FFGA.		1	5	4	4.5	4.5
40d	90	Core Systems Contract	Construction	FTA may not grant an LONP for Construction prior to FFGA.		1	4	4	4	4
42	90	Project Wide	Construction	Strike by shipping contractors may impact delivery of materials.		2	3	2	5	5
42d	90	Airport Guideway	Construction	Strike by shipping contractors may impact delivery of materials.		2	3	2	5	
42e	90	City Center Guideway	Construction	Strike by shipping contractors may impact delivery of materials.		2	3	2	5	

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Legend	Low (1)	Med (2)	High (3)	Very High (4)	Significant (5)
Probability	< 10%	10><50%	> 50%	75%	>90%
Cost	< $250K	$250K><$1	$1M><$3M	$3M><$10	>$10M
Schedule	< 1 Mths	1 ><3 Mths	3><6 Mths	6><12 Mths	> 12 Mths
Rating	< =3	3.1-9.49		>=9.5	

Current ID	SCC Code	Contract Package	FTA Risk Category	Risk Description	Most Current Notes and Comments	Probability Rating	Cost Impact (A)	Schedule Delay (B)	Risk Rating %x(A+B)/2	Prior Risk Rating
43	90	Project Wide	Requirements	The overall project design is incomplete and significant requirements risks still exist.		3	5	0	7.5	7.5
44	90	Project Wide	Market	Lack of bidders could increase costs.		3	5	3	12	12
44d	90	Airport Guideway	Market	Lack of bidders could increase costs.		3	5	3	12	
44e	90	City Center Guideway	Market	Lack of bidders could increase costs.		3	5	3	12	
45	90	Project Wide	Construction	Unforeseen exceptional weather may impact project.		1	4	2	3	3
45a	90	West Oahu/Farrington Highway Guideway	Construction	Unforeseen exceptional weather may impact project.		1	4	2	3	3
45b	90	Maintenance & Storage Facility Contract	Construction	Unforeseen exceptional weather may impact project.		1	0	2	1	1
45c	90	Kamehameha Highway Guideway	Construction	Unforeseen exceptional weather may impact project.		1	4	2	3	3

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Probability	< 10%	10><50%	> 50%	75%	>90%
Cost	< $250K	$250K><$1	$1M><$3M	$3M><$10	>$10M
Schedule	< 1 Mths	1 ><3 Mths	3><6 Mths	6><12 Mths	> 12 Mths
Rating	< =3	3.1-9.49		>=9.5	

Current ID	SCC Code	Contract Package	FTA Risk Category	Risk Description	Most Current Notes and Comments	Probability Rating	Cost Impact (A)	Schedule Delay (B)	Risk Rating %x(A+B)/2	Prior Risk Rating
45d	90	Core Systems Contract	Construction	Unforeseen exceptional weather may impact project.		1	0	2	1	1
45e	90	Airport Guideway	Construction	Unforeseen exceptional weather may impact project.		1	4	2	3	
45f	90	City Center Guideway	Construction	Unforeseen exceptional weather may impact project.		1	4	2	3	
46	90	Project Wide	Requirements	FTA review and approvals process may delay entry into Final design .		3	4	2	9	9
46b	90	Core Systems Contract	Requirements	FTA review process may delay entry into Final Design .	Risk impact on CSC is minimal.	1	2	1	1.5	1.5
47	90	Project Wide	Design	Delays due to integration of new government entities.	No delays have yet to result due to integration of HART.	2	1	2	3	3
47a	90	West Oahu/Farrington Highway Guideway	Design	Delays due to integration of new government entities.	No delays have yet to result due to integration of HART.	2	1	2	3	3
47b	90	Maintenance & Storage Facility Contract	Design	Delays due to integration of new government entities.	No delays have yet to result due to integration of HART.	2	1	2	3	3

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Legend	Low (1)	Med (2)	High (3)	Very High (4)	Significant (5)
Probability	< 10%	10><50%	> 50%	75%	>90%
Cost	< $250K	$250K><$1	$1M><$3M	$3M><$10	>$10M
Schedule	< 1 Mths	1 ><3 Mths	3><6 Mths	6><12 Mths	> 12 Mths
Rating	< =3	3.1-9.49		> =9.5	

Current ID	SCC Code	Contract Package	FTA Risk Category	Risk Description	Most Current Notes and Comments	Probability Rating	Cost Impact (A)	Schedule Delay (B)	Risk Rating %x(A+B)/2	Prior Risk Rating
47c	90	Kamehameha Highway Guideway	Design	Delays due to integration of new government entities.	No delays have yet to result due to integration of HART.	2	1	2	3	3
47d	90	Core Systems Contract	Design	Delays due to integration of new government entities.	No delays have yet to result due to integration of HART.	2	1	2	3	3
48	90	Project Wide	TCC	Insufficient City resources to respond to contractors requests for change orders and claims leads to force accounting.		3	3	0	4.5	4.5
48a	90	West Oahu/Farrington Highway Guideway	TCC	Insufficient City resources to respond to contractors requests for change orders and claims leads to force accounting.		4	3	0	6	6
48b	80	Maintenance & Storage Facility Contract	TCC	Insufficient City resources to respond to contractors requests for change orders and claims leads to force accounting.		2	3	2	5	5
48c	80	Kamehameha Highway Guideway	TCC	Insufficient City resources to respond to contractors requests for change orders and claims leads to force accounting.		2	3	0	3	3
48d	80	Core Systems Contract	TCC	Insufficient City resources to respond to contractors requests for change orders and claims leads to force accounting.		2	2	0	2	2
48e	90	Airport Guideway	TCC	Insufficient City resources to respond to contractors requests for change orders and claims leads to force accounting.		3	3	0	4.5	

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Legend	Low (1)	Med (2)	High (3)	Very High (4)	Significant (5)
Probability	< 10%	10><50%	> 50%	75%	>90%
Cost	< $250K	$250K><$1	$1M><$3M	$3M><$10	>$10M
Schedule	< 1 Mths	1 ><3 Mths	3><6 Mths	6><12 Mths	> 12 Mths
Rating	< =3	3.1-9.49		> =9.5	

Current ID	SCC Code	Contract Package	FTA Risk Category	Risk Description	Most Current Notes and Comments	Probability Rating	Cost Impact (A)	Schedule Delay (B)	Risk Rating %x(A+B)/2	Prior Risk Rating
48f	90	City Center Guideway	TCC	Insufficient City resources to respond to contractors requests for change orders and claims leads to force accounting.		3	3	0	4.5	
49	90	Project wide	Construction	HDOT Master Agreement clarifications - difference between perceived requirements for operation and maintenance at bid and actual - result in change orders.		5	3	0	7.5	7.5
49a	90	West Oahu/Farrington Highway Guideway	Construction	HDOT Master Agreement clarifications - difference between perceived requirements for operation and maintenance at bid and actual - result in change orders.		5	3	0	7.5	7.5
49b	90	Kamehameha Highway Guideway	Construction	HDOT Master Agreement clarifications - difference between perceived requirements for operation and maintenance at bid and actual - result in change orders.	HDOT Master Agreement is about 6 months to a year out. WOFH does not yet have an agreement. Not having an agreement in place does not slow down contract.	5	2	0	5	5
4d	10.04	Airport Guideway	Requirements	Construction of high sections of guideway, e.g. crane's lifting of segments, may be significantly impacted by wind delaying schedule increasing exposure of City to claims.		1	2	2	2	
4e	10.04	City Center Guideway	Requirements	Construction of high sections of guideway, e.g. crane's lifting of segments, may be significantly impacted by wind delaying schedule increasing exposure of City to claims.		1	2	2	2	
5	10.04	Project Wide	Design	30 inch width of walkway may be increased if safety officer will not accept 9" gap between train car and walkway.		2	1	0	1	1

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Cost	< $250K	$250K><$1	$1M><$3M	$3M><$10	>$10M
Schedule	< 1 Mths	1 ><3 Mths	3><6 Mths	6><12 Mths	> 12 Mths
Rating	< =3	3.1-9.49		>=9.5	

Current ID	SCC Code	Contract Package	FTA Risk Category	Risk Description	Most Current Notes and Comments	Probability Rating	Cost Impact (A)	Schedule Delay (B)	Risk Rating %x(A+B)/2	Prior Risk Rating
50	90	Project wide	TCC	Concurrent design reviews of numerous contracts may result in delays.		3	4	2	9	9
50a	90	West Oahu/Farrington Highway Guideway	TCC	Concurrent design reviews of numerous contracts may result in delays.		2	3	2	5	5
50b	90	Maintenance & Storage Facility Contract	Design	Concurrent design reviews of numerous contracts may result in delays.	City will respond to reviews based on agreed upon time frame and will work to manage appropriately. They also assess items that are critical and make sure to respond so that additional costs do not occur. Cost impact reduced from $250k to $1mil to less than $250k. Cost impact reduced to less than 1 month.	3	1	1	3	6
50c	90	Kamehameha Highway Guideway	TCC	Concurrent design reviews of numerous contracts may result in delays.		4	2	2	8	8
50d	90	Core Systems Contract	Requirements	Concurrent design reviews of numerous contracts may result in delays.		4	3	2	10	10
50e	90	Airport Guideway	TCC	Concurrent design reviews of numerous contracts may result in delays.		3	4	2	9	
50f	90	City Center Guideway	TCC	Concurrent design reviews of numerous contracts may result in delays.		3	4	2	9	

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Legend	Low (1)	Med (2)	High (3)	Very High (4)	Significant (5)
Probability	< 10%	10><50%	> 50%	75%	>90%
Cost	< $250K	$250K><$1	$1M><$3M	$3M><$10	>$10M
Schedule	< 1 Mths	1 ><3 Mths	3><6 Mths	6><12 Mths	> 12 Mths
Rating	< =3	3.1-9.49		> =9.5	

Current ID	SCC Code	Contract Package	FTA Risk Category	Risk Description	Most Current Notes and Comments	Probability Rating	Cost Impact (A)	Schedule Delay (B)	Risk Rating %x(A+B)/2	Prior Risk Rating
51	90	Project wide	Construction	Insurance costs may be transferred to Contractor and result in change orders.		5	5	0	12.5	12.5
51a	90	West Oahu/Farrington Highway	Construction	Insurance costs may be transferred to Contractor and result in change orders.	Probability of insurance costs increased to 90% due to minimal insurance amount for WOFH allocated in Project budget.	5	5	0	12.5	7.5
51b	90	Maintenance & Storage Facility Contract	Requirements	Insurance costs may be transferred to Contractor and result in change orders.	RFC will be submitted to Contractor for a full term quote for their self insurance for life of contract. There is some insurance cost in allocated contingency but there may be a cost above the allocated amount due to lack of competition and MSF being a joint venture.	5	3	0	7.5	7.5
51c	90	Kamehameha Highway Guideway	Requirements	Insurance costs may be transferred to Contractor and result in change orders.	RFC will be submitted to Kiewit for a full term quote of their self insurance for life of contract.	4	4	0	8	8
51d	90	Core Systems Contract	Construction	Insurance costs may be transferred to Contractor and result in change orders.		3	3	0	4.5	4.5
52	90	Project wide	TCC	City review of contractor submittals may take longer than the time contractor currently assumes, resulting in Contractor delays and claims.		3	4	2	9	9
52a	90	West Oahu/Farrington Highway	TCC	City review of contractor submittals may take longer than the time contractor currently assumes, resulting in Contractor delays and claims.		2	2	1	3	3

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Probability	< 10%	10><50%	> 50%	75%	>90%
Cost	< $250K	$250K><$1	$1M><$3M	$3M><$10	>$10M
Schedule	< 1 Mths	1 ><3 Mths	3><6 Mths	6><12 Mths	> 12 Mths
Rating	< =3	3.1-9.49		> =9.5	

Current ID	SCC Code	Contract Package	FTA Risk Category	Risk Description	Most Current Notes and Comments	Probability Rating	Cost Impact (A)	Schedule Delay (B)	Risk Rating %x(A+B)/2	Prior Risk Rating
52b	90	Maintenance & Storage Facility Contract	Requirements	City review of contractor submittals may take longer than the time contractor currently assumes, resulting in Contractor delays and claims.	City is telling the contractor it is a 30 day turn around, for certain items it may be faster, but is not in the contract. MSF has responded to all 14 day requests that it is not acceptable since it is not in contract.	3	2	2	6	6
52c	90	Kamehameha Highway Guideway	TCC	City review of contractor submittals may take longer than the time contractor currently assumes, resulting in Contractor delays and claims.		3	2	2	6	6
53	90	Project wide	Construction	Significant design errors identified during construction results in consequential delays to opening.		1	5	3	4	4
53a	90	West Oahu/Farrington Highway Guideway	Construction	Significant design errors identified during construction results in consequential delays to interim opening.	Cost would be due to interface delays. DB is responsible for own design.	1	4	3	3.5	3.5
53b	90	Maintenance & Storage Facility Contract	Construction	Significant design errors identified during construction results in consequential delays to Interim Opening #1.	Since DB is responsible for design, cost is on contractor. Delay would only affect the interim opening #1.	1	3	3	3	3
53c	90	Kamehameha Highway Guideway	Construction	Significant design errors identified during construction results in consequential delays to opening.		1	4	3	3.5	3.5
53d	90	Core Systems Contract	Construction	Significant design errors identified during construction results in consequential delays to opening.	Any design errors found will mostly be caught early on and should result in minimum delays.	1	3	3	3	3
53e	90	Airport Guideway	Construction	Significant design errors identified during construction results in consequential delays to opening.		1	5	3	4	

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Probability	< 10%	10><50%	> 50%	75%	>90%
Cost	< $250K	$250K><$1	$1M><$3M	$3M><$10	>$10M
Schedule	< 1 Mths	1 ><3 Mths	3><6 Mths	6><12 Mths	> 12 Mths
Rating	<=3	3.1-9.49		>=9.5	

Current ID	SCC Code	Contract Package	FTA Risk Category	Risk Description	Most Current Notes and Comments	Probability Rating	Cost Impact (A)	Schedule Delay (B)	Risk Rating %x(A+B)/2	Prior Risk Rating
53f	90	City Center Guideway	Construction	Significant design errors identified during construction results in consequential delays to opening.		1	5	3	4	
54	90	Project wide	Construction	City maintenance of guideway and other structures, after substantial completion 1 year warranty period, may require additional remedial work (prior to systemwide opening).		1	5	2	3.5	3.5
54d	90	Airport Guideway	Construction	City maintenance of guideway and other structures, after substantial completion 1 year warranty period, may require additional remedial work (prior to systemwide opening).		1	5	2	3.5	
55	40.02	Project Wide	Construction	HDOT may require grouting of abandoned utilities left in place.	HDOT is worried about future settlement and is requiring full grouting of all utilities over 8" diameter and in the median. Once requirements are verified by HDOT a change order will be submitted.	5	4	0	10	10
55a	40.02	West Oahu/Farrington Highway Guideway	Construction	DOT may require grouting of abandoned utilities left in place.	Kiewit recently received a letter from HDOT stating they must remove all utilities abandoned except for those under median. They must also grout all abandoned utilities over 8" diameter. The city is currently in the process of reviewing and receiving clarification.	5	3	0	7.5	7.5
55b	40.02	Airport Guideway	Construction	DOT may require grouting of abandoned utilities left in place.		5	3	0	7.5	7.5

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Probability	< 10%	10><50%	> 50%	75%	>90%
Cost	< $250K	$250K><$1	$1M><$3M	$3M><$10	>$10M
Schedule	< 1 Mths	1 ><3 Mths	3><6 Mths	6><12 Mths	> 12 Mths
Rating	< =3	3.1-9.49		> =9.5	

Current ID	SCC Code	Contract Package	FTA Risk Category	Risk Description	Most Current Notes and Comments	Probability Rating	Cost Impact (A)	Schedule Delay (B)	Risk Rating %x(A+B)/2	Prior Risk Rating
55c	40.02	Kamehameha Highway Guideway	Construction	DOT may require grouting of abandoned utilities left in place.		5	3	0	7.5	7.5
55d	40.02	City Center Guideway	Construction	HDOT may require grouting of abandoned utilities left in place.		5	3	0	7.5	7.5
56	40.02	Project Wide	Construction	BWS and/or HDOT may not grant waiver to leave in place existing utilities to be abandoned that are not impacted by new structures requiring partial or total removal.	Kiewit received letter from HDOT regarding utilities that are to be abandoned. HDOT is more willing to work with the City than the contractor to negotiate on a case by case request to leave in place. Darrin Mar is the point of contact and has received clarification that removal is only on those in our work area, not all over.	4	5	1	12	4
56a	40.02	West Oahu/Farrington Highway Guideway	Construction	BWS and/or HDOT may not grant waiver to leave in place existing utilities to be abandoned that are not impacted by new structures requiring partial or total removal.	Kiewit received letter from HDOT stating that all abandoned utilities in the roadway of Farrington Highway must be removed. Darrin Mar received clarification that removal is only on those in our work area, not all over. Darrin is working with HDOT to get waiver on a case by case basis for WOFH. Cost impact reduced to $3 to $10 million based on rough estimate..	4	4	1	10	12

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Probability	< 10%	10><50%	> 50%	75%	>90%
Cost	< $250K	$250K><$1	$1M><$3M	$3M><$10	>$10M
Schedule	< 1 Mths	1 ><3 Mths	3><6 Mths	6><12 Mths	> 12 Mths
Rating	< =3	3.1-9.49		> =9.5	

Current ID	SCC Code	Contract Package	FTA Risk Category	Risk Description	Most Current Notes and Comments	Probability Rating	Cost Impact (A)	Schedule Delay (B)	Risk Rating %x(A+B)/2	Prior Risk Rating
56b	40.02	Airport Guideway	Construction	BWS and/or HDOT may not grant waiver to leave in place existing utilities to be abandoned that are not impacted by new structures requiring partial or total removal.	Kiewit received letter from HDOT stating that all abandoned utilities in the roadway of Farrington Highway must be removed. Darrin Mar received clarification that removal is only on those in our work area, not all over. Darrin is working with HDOT to get waiver on a case by case basis for WOFH.	4	4	1	10	4
56c	40.02	Kamehameha Highway Guideway	Construction	BWS and/or HDOT may not grant waiver to leave in place existing utilities to be abandoned that are not impacted by new structures requiring partial or total removal.	Kiewit received letter from HDOT stating that all abandoned utilities in the roadway must be removed. Darrin Mar received clarification that removal is only on those in our work area, not all over. Darrin is working with HDOT to get waiver on a case by case basis for WOFH. Cost impact reduced to $3 to $10 million based on rough estimate. SIC has an agreement w/ BWS to use abandoned waterlines for their fiber optic conduits, which should lessen the amount of removal required.	4	4	1	10	12
56d	40.02	City Center Guideway	Construction	BWS and/or HDOT may not grant waiver to leave in place existing utilities to be abandoned that are not impacted by new structures requiring partial or total removal.	Kiewit received letter from HDOT stating that all abandoned utilities in the roadway of Farrington Highway must be removed. Darrin Mar received clarification that removal is only on those in our work area, not all over. Darrin is working with HDOT to get waiver on a case by case basis for WOFH.	4	4	1	10	4

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Probability	< 10%	10><50%	> 50%	75%	>90%
Cost	< $250K	$250K><$1	$1M><$3M	$3M><$10	>$10M
Schedule	< 1 Mths	1 ><3 Mths	3><6 Mths	6><12 Mths	> 12 Mths
Rating	< =3	3.1-9.49		> =9.5	

Current ID	SCC Code	Contract Package	FTA Risk Category	Risk Description	Most Current Notes and Comments	Probability Rating	Cost Impact (A)	Schedule Delay (B)	Risk Rating %x(A+B)/2	Prior Risk Rating
57	40.04	Project Wide	NEPA	During excavation for new Utilities, iwi (Archeological human remains) may be found requiring revised alignment for utility relocations which would result in additional costs and possible schedule delays from Contractor.	Submitted AISP to SHPD. Project expects to start AIS on CC in Sept. 2011.	4	3	2	10	10
57a	40.04	West Oahu/Farrington Highway Guideway	NEPA	During excavation for new Utilities, iwi (Archeological human remains) may be found requiring revised alignment for utility relocations on Farrington Highway, which are likely to incur additional costs and possible schedule delays from Contractor.		1	2	2	2	2
57b	40.04	Airport Guideway	NEPA	During excavation for new Utilities, iwi (Archeological human remains) may be found requiring revised alignment for utility relocations on the Airport segment which are likely to incur additional costs and possible schedule delays from Contractor		2	2	2	4	4
57c	40.04	Kamehameha Highway Guideway	NEPA	During excavation for new utilities, iwi (archeological human remains) may be found requiring revised alignment for utility relocations on Kamehameha Highway, which is likely to incur additional costs and possible schedule delays from Contractor.		1	2	1	1.5	1.5
57d	40.04	City Center Guideway	NEPA	During excavation for new utilities, iwi (Archeological human remains) may be found, which would require revised alignment for utility relocations if iwi are preserved in place.	No change until at least September 2011.	4	3	2	10	10

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Cost	< $250K	$250K><$1	$1M><$3M	$3M><$10	>$10M
Schedule	< 1 Mths	1 ><3 Mths	3><6 Mths	6><12 Mths	> 12 Mths
Rating	< =3	3.1-9.49		> =9.5	

Current ID	SCC Code	Contract Package	FTA Risk Category	Risk Description	Most Current Notes and Comments	Probability Rating	Cost Impact (A)	Schedule Delay (B)	Risk Rating %x(A+B)/2	Prior Risk Rating
58	90	Project Wide	Design	City may require changes to baseline documents resulting in formal change orders.		5	4	1	12.5	12.5
58a	90	West Oahu/Farrington Highway	Design	City may require design changes to DB submittals resulting in formal change orders.	Cost increased from $1 to $3 million to $3 to $10 million. RFC's currently for WOFH are around $2 million. Addition costs are expected to arise.	5	4	1	12.5	10
58b	90	Maintenance & Storage Facility Contract	Design	City may require changes to baseline documents resulting in formal change orders.		5	2	0	5	5
58c	90	Kamehameha Highway Guideway	Design	City may require changes to baseline documents resulting in formal change orders.		2	2	0	2	2
58d	90	Core Systems Contract	Design	City may require changes to baseline documents resulting in formal change orders. (Covers any changes to June 2012)		5	2	1	7.5	7.5
58e	90	Airport Guideway	Design	City may require changes to baseline documents resulting in formal change orders.		2	3	1	4	
58f	90	City Center Guideway	Design	City may require changes to baseline documents resulting in formal change orders.		2	3	1	4	
59	40.08	Project Wide	Construction	Traffic disruptions may result in revised constraints imposed by City or HDOT (lane restrictions and peak time flow restrictions) .		4	4	2	12	12

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59a	40.08	West Oahu/Farrington Highway Guideway	Construction	Traffic disruption on Farrington Highway may result in revised constraints imposed by City or HDOT (ex. lane restrictions and peak time flow restrictions).		3	3	2	7.5	7.5
59b	40.08	Airport Guideway	Construction	Traffic disruptions in Airport segment may result in revised constraints imposed by City or HDOT. (Ex. lane restrictions and peak time flow restrictions)		3	3	2	7.5	7.5
59c	40.08	Kamehameha Highway Guideway	Construction	Traffic disruption on Kamehameha Highway may result in revised constraints imposed by City or HDOT, following commencement of construction. (lane restrictions and peak time flow restrictions).	Unsure if HDOT will allow traffic restrictions put in SPs. Do not have a formal agreement with them at this time.	4	3	2	10	10
59d	40.08	City Center Guideway	Construction	Traffic disruptions in City Center segment may result in revised constraints imposed by City or HDOT (lane restrictions and peak time flow restrictions) .		4	4	2	12	12
5a	10.04	West Oahu/Farrington Highway Guideway	Design	30 inch width of walkway may be increased if safety officer will not accept 9" gap between train car and walkway.		2	1	0	1	1
5b	10.04	Kamehameha Highway Guideway	Construction	30 inch width of walkway may be increased if safety officer will not accept 9" gap between train car and walkway.		2	1	0	1	1
5d	10.04	Airport Guideway	Design	30 inch width of walkway may be increased if safety officer will not accept 9" gap between train car and walkway.	Should be resolved by the end of the year.	2	1	0	1	

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5e	10.04	City Center Guideway	Design	30 inch width of walkway may be increased if safety officer will not accept 9" gap between train car and walkway.	Should be resolved by the end of the year.	2	1	0	1	
6	20.02	Project Wide	Requirements	Station Bathroom design criteria presented to the public is unacceptable and results in additional bathrooms.		1	3	1	2	2
60	10.04	Project Wide	Geotech/Early Const	Differing geotechnical conditions may be encountered and result in schedule delays and additional cost. (General Project Wide geotechnical risk)		5	5	3	20	20
60a	10.04	West Oahu/Farrington Highway Guideway	Geotech/Early Const	Geotechnical conditions actually encountered during final design differ from subsurface conditions baselined in the GBR, which, if material to the design or construction, may results in differing site condition claim(s).	No DSCs have been filed by contractor. Cost impact increased from $1 to $3 million to $3 to $10 million due to review by Geotech. Probability reduced back in April due to progressed and completed testing which did not result in any inconsistencies or DCS.	3	4	2	9	7.5
60b	10.04	Airport Guideway	Geotech/Early Const	Given limited geotechnical information available at this time, additional costs may be incurred associated with final design through construction.	Finalizing contract for Final Designer.	4	5	3	16	16
60c	10.04	Maintenance & Storage Facility Contract	Geotech/Early Const	If soil conditions extremely vary from GDR, additional costs may result.		2	3	2	5	5
60d	10.04	Kamehameha Highway Guideway	Design	Geotechnical conditions encountered during construction differ from subsurface conditions baselined during design, results in differing site condition claim(s).	Start of geotech work is still a couple months away.	4	4	2	12	12

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60e	10.04	City Center Guideway	Geotech/Early Const	Given limited geotechnical information available at this time, additional costs may be incurred associated with final design through construction.		5	5	3	20	20
61	40.02	Project wide	Geotech/Early Const	Cost exposure from unexpected utility replacements. (Ex. underground piping quality may be degraded and require extensive replacement which may not all be offset as betterment).		2	5	2	7	7
61a	40.02	West Oahu/Farrington Highway Guideway	Geotech/Early Const	Cost exposure from unexpected utility replacements. (Ex. underground piping quality may be degraded and require extensive replacement which may not all be offset as betterment).		1	3	0	1.5	1.5
61b	40.02	Airport Guideway	Geotech/Early Const	Cost exposure from unexpected utility replacements. (Ex. underground piping quality may be degraded and require extensive replacement which may not all be offset as betterment).		2	3	4	7	7
61c	40.02	Kamehameha Highway Guideway	Requirements	Cost exposure from unexpected utility replacements. (Ex. underground piping quality may be degraded and require extensive replacement which may not all be offset as betterment).		2	3	2	5	5
61d	40.02	City Center Guideway	Geotech/Early Const	Cost exposure from unexpected utility replacements. (Ex. underground piping quality may be degraded and require extensive replacement which may not all be offset as betterment).		2	3	4	7	7
62	40.02	Project wide	Construction	Delay to utility easement agreements may delay access for utility relocations and result in Contractor claims.		3	2	2	6	6

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62a	40.02	West Oahu/Farrington Highway	Construction	Delay to utility easement agreements for WOFH contracts may delay access for utility relocations and result in Contractor claims.	There are currently challenges but they are being tackled in order of importance.	3	2	2	6	6
62b	40.02	Airport Guideway	Construction	Delay to utility easement agreements may delay access for utility relocations and result in Contractor claims.		1	1	2	1.5	1.5
62c	40.02	Kamehameha Highway Guideway	Design	Additional utility easements may be required for Military or private utility companies.		5	1	0	2.5	2.5
62d	40.02	City Center Guideway	Construction	Delay to utility easement agreements for City Center may delay access for utility relocations and result in Contractor claims.		3	1	1	3	3
63	40.02	Project wide	Construction	Costs for utility relocations may increase if utility plans have deviations greater than contract stipulation.	Small impacts have been identified in WOFH and will most likely be found in other sections as well.	4	4	2	12	12
63a	40.02	West Oahu/Farrington Highway Guideway	Construction	Costs for utility relocations may increase if utility plans have deviations greater than contract stipulation.	Small impacts have been identified in WOFH and will most likely be found in other sections as well.	4	3	1	8	8
63b	40.02	Airport Guideway	Construction	Costs for utility relocations may increase if utility plans have deviations greater than contract stipulation.		2	3	3	6	6
63c	40.02	Kamehameha Highway Guideway	Requirements	Costs for utility relocations may increase if utility plans have deviations greater than contract stipulation.		3	4	2	9	9

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63d	40.02	City Center Guideway	Construction	Costs for utility relocations may increase if utility plans have deviations greater than contract stipulation.		2	3	3	6	6
64	40.04	West Oahu/Farrington Highway	Requirements	An injunction resulting from a legal challenge may take place after ROD, which would stop construction and cause delays.	Lawsuit is still being dealt with by Corp Council and their lawyers.	2	5	5	10	10
65	10.04	West Oahu/Farrington Highway Guideway	Design	Late provision of design information for station structures.	WOFH designers are proceeding without input from station designers.	3	3	2	7.5	7.5
66	10.04	West Oahu/Farrington Highway Guideway	Construction	City-supplied materials may not be provided as per contract.		2	2	2	4	4
67	90	West Oahu/Farrington Highway Guideway	Market	Delay to issue NTP results in claims for additional costs.	The cost provided in the estimate covers the delay until March 2011. This risk is to cover the delay after March 2011. NTP4 is targeted for Sept. 2011. Probability increased to 90% due to delay being an additional 6	5	5	2	17.5	10.5
68	40.04	West Oahu/Farrington Highway	Geotech/Early Const	Extensive rain could, because of potential flooding of the work site, affect construction schedule at the Pearl Highlands Station area.		2	2	1	3	3
69	40.04	West Oahu/Farrington Highway Guideway	Design	Natural drainage at Ho'opili Station may need to be addressed by project if DR Horton development does not do it, which would result in additional costs to the project.		5	1	0	2.5	2.5

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7	20.02	Project Wide	Design	Additional costs may arise through simple stations and guideway integration.		1	2	2	2	2
70	20.02	West Oahu/Farrington Highway Guideway	Design	East Kapolei Station design could change, based on hydraulic and geotech study, and additional costs may be incurred.		2	3	1	4	4
71	20.02	West Oahu/Farrington Highway	Design	Waipahu Station is located in the floodplain and the design has yet to be approved by DPP, which could result in a delay due to redesign.		5	2	1	7.5	7.5
72	20.02	West Oahu/Farrington Highway	Design	UH West Oahu Station design could change, based on hydraulic and geotech study, and additional costs may be incurred.		2	3	1	4	4
73	10.04	West Oahu/Farrington Highway	Geotech/Early Const	Lateral deflection of shafts at top is an added requirement: specified as not to exceed 1 inch under Service I loading combination.		5	2	0	5	5
74	20.02	Kamehameha Highway Stations	Construction	With guideway previously constructed at Pearl Highlands Station, constructability issues could arise for Bus Transit Center and Parking Garage.		3	2	2	6	6
75	20.02	West Oahu/Farrington Highway Guideway	Requirements	Project may be required to build a 1-mile paved street at Ho'opili Station (final decision to be made by Toru).		1	5	0	2.5	2.5
76	80.05	West Oahu/Farrington Highway Guideway	Market	Insurance amount in budget may be insufficient to cover change from OCIP to a CCIP.	RFC will be submitted to Kiewit for a full term quote for their self insurance for life of contract. Kiewit's change order for CCIP coverage through Dec. 2011 is for $4 million.	3	4	0	6	6

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77	10.04	West Oahu/Farrington Highway Guideway	Design	Traffic studies at intersection near West Oahu Station may require changes to column locations and result in redesign and additional costs to guideway and station.		2	2	1	3	3
78	90	West Oahu/Farrington Highway Guideway	Construction	Strike by local labor may cause delays to WOFH Contract.		1	3	2	2.5	2.5
79	10.09	Maintenance & Storage Facility Contract	Market	Delayed NTP of MSF may increase costs associated with rail, building steel fasteners etc. (Substantial completion to be about 6 months later than currently assumed.)	NTP1 was given July 25, 2011.	2	3	0	3	3
7d	20.02	Airport Guideway	Design	Additional construction costs may arise through simple stations and guideway integration.		2	2	2	4	
8	20.02	Project Wide	Design	Additional costs may arise through complicated stations and guideway integration.		2	3	3	6	6
80	30.03	Maintenance & Storage Facility Contract	Start-up	Equipment supplied by MSF contract may not meet performance criteria agreed with Core Systems Contractor.	MSF did meet the specs in their bid, however CSC could still come back and need additional changes. MSF must receive approval from CSC before they purchase equipment.	2	3	2	5	5
81	40.02	Maintenance & Storage Facility Contract	Construction	The utility connections required for the MSF facility may be greater than expected and/or the layout of the final facility required by the Core System contractor may impact the Utility scope and costs.		1	1	2	1.5	1.5

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82	40.03	Maintenance & Storage Facility Contract	Geotech/Early Const	The Navy may not have cleared all contaminated material from the Navy Drum Site.	Navy has said that contaminated soil has been removed. If it is later found that contamination remains, then the Project will work with DHHL to resolve.	2	2	2	4	4
83	60.01	Right of Way	Requirements	Approvals by Navy for the MSF drainage (storm drain) easement that goes through Navy property may take longer than expected and delay construction.	Navy has all the documentation and is in the process of approving.	1	2	0	1	1
84	30.03	Maintenance & Storage Facility Contract	Design	Reconfiguration of yard and building layout during design results in additional costs to contract.	The Final Designer will flip the one building but the cost impact should be minimal.	4	2	0	4	4
85	80.04	Maintenance & Storage Facility Contract	Requirements	Field office space may increase in size over current contract requirements.	Contractor specs are to supply space for 6 employees of City and GEC. More spaces will be needed. Cost reduced due to City input which said that any cost over $250,000 will be denied by the City.	5	1	0	2.5	5
86	60.01	Right of Way	Design	DHHL (Dept. of Hawaiian Home Lands) owns the MSF property and City needs to get right to occupy and construct.	August 15th is DHHL's Board Meeting and will grant access for construction for MSF and WOFH Guideway. Will then work on license agreement or property exchange.	2	2	2	4	4
87	40.04	Right of Way	Construction	Inability to obtain property access in a timely manner to undertake further environmental studies delays project.	Received concurrence from FTA Aug. 9 and will make an offer by August 23rd. They will then have 30 days to respond. By the end of Sept. will know what is going on.	2	2	2	4	4
88	40.02	Kamehameha Highway Guideway	Requirements	Relocation of 10 inch fuel line and 16 inch gas line along Kamehameha Highway may be more difficult than expected due to possible time frames for outages, etc.		2	1	3	4	4

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89	20.02	Right of Way	Construction	Property issues associated with Aloha Stadium Authority could result in scope changes and additional costs.	Have a pre-construction agreement with Aloha Stadium. Currently working to obtain agreement for construction.	2	2	1	3	3
8d	20.02	Airport Guideway	Design	Additional costs may arise through complicated stations and guideway integration.		2	3	3	6	
8e	20.02	City Center Guideway	Design	Additional costs may arise through complicated stations and guideway integration.	More complicated stations in City Center so probability is higher than in other sections.	3	4	2	9	
9	20.02	Project Wide	Requirements	Bus shelters may be added to scope and increase project cost.		5	3	0	7.5	7.5
91	50.01	Core Systems Contract	Market	If there is a legal protest to the award of Core Systems it could cause delays to NTP resulting in additional costs and schedule delays.	NTP was supposed to occur in April 2011. Contract hopes to be signed by mid -Sept. 2011. Mitigating delays by supplying current designers with information that they need from CSC but cannot obtain since contractor is not on board.	5	4	3	17.5	17.5
92	50.07	Core Systems Contract	Design	Back-up OCC proposed to be integrated with City Traffic Management Center may be underestimated.		1	2	0	1	1
93	40.02	Core Systems Contract	Design	Utility costs and scope to provide power to TPSS may be more than estimated. (ex. need to extend a medium voltage transmission line -12 kV)		2	4	0	4	4

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94	50.01	Core Systems Contract	Construction	Equipment, structures, etc. supplied by other contractors may not meet criteria required by Core Systems Contractor. (Systems Integration)		2	3	2	5	5
95	50.01	Core Systems Contract	Construction	Changes suggested by other contractors may result in change orders with Core Systems.		3	2	2	6	6
96	50.01	Core Systems Contract	Construction	Testing/ Demo/ Safety and Security Certification process may be more complicated than assumed.		2	2	2	4	4
98	50.01	Core Systems Contract	Construction	Construction sequencing is disrupted by fixed facility performance which causes inefficiencies and additional costs due to remobilization (or even double shifting because there are 2 locations at once).	The longer CSC is delayed the more likely that fixed facilities are available in time.	2	3	0	3	3
99	50.01	Core Systems Contract	Construction	Resource management may be limited during oversight of both operations of specific sections and construction/installation/testing of other sections.		2	2	2	4	4
9d	20.02	Airport Guideway	Requirements	Bus shelters may be added to scope and increase project cost.		5	2	0	5	
9e	20.02	City Center Guideway	Requirements	Bus shelters may be added to scope and increase project cost.	More shelters in City Center than other sections so cost is higher.	5	3	0	7.5	
PMOC16	10.04	City Center Guideway	Design	Estimates for remaining guideway contracts may be low due to adjustments using pricing from WOFH Bid.		3	4	0	6	6

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PMOC35	10.04	City Center Guideway	Construction	Underground obstruction delays pier/bent installation		1	4	2	3	3
PMOC8e	10.04	Core Systems Contract	Construction	Breakdown of specialty equipment/replacements not available locally		2	1	3	4	4
PMOC36	30.01	Maintenance & Storage Facility Contract	Construction	CSC could dictate changes to the Administration Building to accommodate its latest projections of staff needs.		2	2	1	3	3
PMOC11	60.01	Right of Way	Construction	Real Estate market could rebound before purchase of all needed properties, greatly increasing cost of property and delaying construction if legal actions are pursued.		2	5	0	5	5
PMOC50	50.01	Core Systems Contract	Requirements	Location of manholes, duct banks and conduits may require changes once systems design is finalized. (If installation of system wide duct banks is in the Civil packages.)		2	4	1	5	5
PMOC4	20.02	Project Wide Stations	Construction	Community pressure or transit-oriented development causes need for additional infill stations.		1	5	4	4.5	4.5
PMOC32	70.01	Maintenance & Storage Facility Contract	Design	Current layout in MSF for inspection pit design may not be conformed with selected vehicles.	MSF has looked at selected vehicles by CSC and there does not seem to be much impact to the current layout.	3	1	1	3	3
PMOC51	50.02	Core Systems Contract	Design	CSC electrical sub has limited transit systems construction experience. Likely cost & schedule impact. Will require more extensive monitoring by RTD.		2	1	1	2	2

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Current ID	SCC Code	Contract Package	FTA Risk Category	Risk Description	Most Current Notes and Comments	Probability Rating	Cost Impact (A)	Schedule Delay (B)	Risk Rating %x(A+B)/2	Prior Risk Rating
PMOC6	30.04	Maintenance & Storage Facility Contract	Design	Maintenance of Way (MOW) employees, once hired, may make requests for changes to MOW facility.		1	2	2	2	2
PMOC17	90	Project wide	Market	Project Labor Agreement does not cover utility companies. Schedule could be impacted if they experience labor dispute.		2	3	2	5	5
PMOC7	80.04	Core Systems Contract	Requirements	The outlined interface management plan (IMP) must function comprehensively and correctly. CSC proposal recognizes the importance of this process and lists it as a critical success factor. May require more staffing.		2	3	1	4	4
PMOC52	70.01	Core Systems Contract	Construction	Vehicle delivery may be delayed, as has been experienced in prior transit projects.	Project is at least 3 years out from needing a vehicle.	2	1	3	4	4
PMOC20	80.08	Core Systems Contract	Construction	Additional costs and delays may result due to the possible need for progressive changes to the design to accommodate staged working, along with operational and non-operational transitions.		2	2	2	4	4
PMOC8c	10.04	Airport Guideway	Construction	Breakdown of specialty equipment/replacements not available locally		2	1	3	4	4
PMOC44	30.03	Maintenance & Storage Facility Contract	Design	Schedule of coordination of yard and shop space versus vehicle delivery and acquisition of real estate.	ROW is currently working on agreement. ROW access for construction will not become critical until November since they already have the ability to access for testing and design.	1	2	2	2	2

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Legend	Low (1)	Med (2)	High (3)	Very High (4)	Significant (5)
Probability	< 10%	10><50%	> 50%	75%	>90%
Cost	< $250K	$250K><$1	$1M><$3M	$3M><$10	>$10M
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PMOC8d	10.04	City Center Guideway	Construction	Breakdown of specialty equipment/replacements not available locally		2	1	3	4	4
PMOC8f	10.04	Maintenance & Storage Facility Contract	Construction	Breakdown of specialty equipment/replacements not available locally.		2	1	1	2	2
PMOC12	20.02	Project Wide Stations	Construction	Separate procurement and installation of conveyance devices may create coordination problems in field resulting in schedule impact.		1	1	1	1	1
PMOC13	20.02	Project Wide Stations	Requirements	Costs are not allocated in station cost estimates for Art Program.		5	4	0	10	10
PMOC2c	10.09	Airport Guideway	Construction	Lower than expected production rate for track construction.		1	2	2	2	2
PMOC2d	10.09	City Center Guideway	Construction	Lower than expected production rate for track construction.		1	2	2	2	2
PMOC2a	10.09	West Oahu/Farrington Highway Guideway	Construction	Lower than expected production rate for track construction delays interim opening.		1	2	2	2	2
PMOC2b	10.09	Kamehameha Highway Guideway	Construction	Lower than expected production rate for track construction.		1	2	2	2	2

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PMOC8a	10.04	West Oahu/Farrington Highway Guideway	Construction	Breakdown of specialty equipment/replacements not available locally		2	1	3	4	4
PMOC26	20.02	Project Wide Stations	Design	Consideration of design changes to reduce station length and platform width may impact guideway structure design / construction.		1	2	2	2	2
PMOC31	20.07	Project Wide	Requirements	Elevators and escalators are a separate contract which may result in coordination issues with other contracts and cause delays.		2	2	2	4	4
PMOC8b	10.04	Kamehameha Highway Guideway	Construction	Breakdown of specialty equipment/replacements not available locally		2	1	1	2	2
PMOC22	50.01	Core Systems Contract	Market	Damage may occur to parts during long haul shipping and delay openings.		1	0	3	1.5	1.5
PMOC30	80.03	Project wide	Requirements	Grantee has not awarded contracts for the Cultural Resources (Kako'o) and a Job Order Contractor for Misc Construction Work. The Contract Packaging Plan states this work will be funded with contingency but needs to be part of contract packaging plan.		2	3	3	6	6
PMOC8	10.04	Project wide	Construction	Breakdown of specialty equipment/replacements not available locally		2	1	3	4	4

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PMOC19	50.05	Core Systems Contract	Design	Managing technology advances in sub-system components throughout the eight-year construction and 10-year O&M program will be difficult.		2	1	1	2	2
PMOC5	20.02	Project Wide Stations	Design	Comprehensive station design reveals need for increased number or size of guideway piers in station areas.		1	5	1	3	3
PMOC2	10.09	Project wide	Construction	Lower than expected production rate for track construction.		1	2	2	2	2