This written report supplements the presentation of activities and findings from the East Kapolei Permitted Interaction Group to the Hawaii Interagency Council for Transit-Oriented Development (TOD Council) at its March 12, 2019 meeting. Slides from the presentation can be found in Attachment A.

I. Permitted Interaction Group

Purpose and Members

The East Kapolei (EK) Permitted Interaction Group (PIG) is one of three PIGs formed by the TOD Council on June 12, 2018, to address TOD implementation issues on State lands in the three TOD priority areas along the Honolulu rail corridor—East Kapolei, Halawa-Stadium, and Iwilei-Kapalama. The PIG was established to provide a forum for input, discussion, and deliberation on infrastructure conditions, improvements required, and financing issues being studied under the State TOD Planning and Implementation Project (State TOD Project), managed by the Office of Planning (OP). (Refer to Attachment B for more information about the project.)

TOD Council members selected to serve on the PIG include State landowning agencies in the area, State and county support agencies, and stakeholder group representatives. Additional representatives from PIG member agencies or organizations were invited to participate in the PIG activities, including non-governmental stakeholders with major known projects planned in the area, to ensure that the resulting infrastructure plan represented the cumulative public improvements required to accommodate planned TOD growth in the area over the 30- to 40-year development period. PIG members, designees, and representatives that participated in the PIG activities are listed in Attachment C.

Craig Hirai/HHFDC and Carleton Ching/UH and Bonnie Arakawa/UH West Oahu served as co-chairs for the PIG. The PIG was staffed by Rodney Funakoshi and Ruby Edwards, assisted by PBR Hawaii, the prime consultant for the State TOD Project.
II. Tasks Assigned and Activities in Performance of Tasks

The EK PIG was specifically charged with assisting in the following tasks for Phase I of the State TOD Implementation Project:

1. Develop a preferred master land use plan for State TOD projects in the East Kapolei TOD priority area to identify infrastructure requirements;
2. Identify infrastructure deficiencies and requirements for the preferred plan;
3. Identify potential CIP budget requests for TOD Council recommendation to the 2019 Legislature, as needed; and
4. Identify a public outreach strategy for State TOD implementation, and refine evaluative criteria and develop performance metrics for project implementation.

Since the focus of the State TOD Project is on the infrastructure investments that will be needed to accommodate State TOD project development in the TOD priority areas, the outreach strategy, evaluative criteria, and performance metrics tasks will be tackled later when additional time and resources can be devoted to them.

Context for State TOD Project and PIG Effort. The PIG activities for the State TOD Project aim to flesh out how individual State TOD projects will be developed in the context of the City’s Neighborhood TOD Plan for this TOD priority area. The City TOD Plans lay the groundwork for the character and intensity of TOD within their plan areas, based on land use and capacity analyses and community input as to how these communities may evolve over time. The State TOD Project is intended to determine what State infrastructure investments will be needed as State TOD projects build out as part of this community vision.

Phase I of the State TOD Project involves: (1) the compilation of information on State TOD projects in the area, existing infrastructure system conditions, and known infrastructure challenges; and (2) the development of a preferred land use scenario based on agency plans for State lands in the TOD priority area. The preferred land use scenario developed with the PIG will be used in Phase II to determine infrastructure requirements needed to realize State TOD potential in the area, and to inform the development of potential infrastructure financing strategies.

Phase I PIG tasks and activities completed are summarized below.

A. PIG Meeting 1, July 16, 2018—Project kick-off, review of TOD project and plan information compiled to date

The initial PIG meeting was held in July 2018 to orient PIG members to the State TOD Project. PBR Hawaii staff briefed the PIG on information compiled to date for the project from the City’s draft East Kapolei Neighborhood TOD Plan (EK TOD Plan), existing studies, and agency project plans. The PIG was asked to identify information gaps and needs for master plan charrettes scheduled for September 2018, as well as concerns and opportunities related to infrastructure and financing for the area that needed to be examined in the study. PIG members were asked to provide any project plans and information to the consultant team to compile for the master plan design workshop (charrette) and the land use model that would be developed to determine regional or local infrastructure needs.
An additional PIG meeting was scheduled in July 2018 to discuss planned widening of Farrington Highway—a City facility—among State and City agencies and other major landowners whose proposed development is impacted by the widening project. At the time, plans were calling for a six-lane arterial that would require multiple turning lanes or a flyover at the intersection with Kualakai Parkway. The scale of the intersection required was of concern to all impacted landowners, in terms of cost and impact on multi-modal transportation options like walking and biking, accessibility to adjoining parcels, and the desired urban design character for lands at this intersection and along Farrington. Concerns were also raised about safe and convenient road crossings by students attending the planned East Kapolei High School. Further discussion between DOT Highways and the City was arranged to discuss a four-lane alternative for the widening project.

Subsequently, the City reported that they would proceed with a four-lane facility, but retain a six-lane right-of-way that might be able to accommodate Complete Streets features.

B. PIG Meeting 2, September 21, 2018—Land use workshop/charrette for TOD priority area

The second PIG meeting was a master plan/land use design charrette that was designed to explore existing project plans in relation to the proposed land use pattern, densities, and character of TOD envisioned in the City EK TOD Plan. Within this context, charrette participants discussed proposed land use plans and options with consideration of: existing conditions; proposed land uses and density of individual TOD projects; opportunities to align or coordinate development efforts; public realm and access improvements needed; and the implications of proposed project plans and land uses for public infrastructure systems and infrastructure delivery. PIG members were presented examples of urban design features that could be considered in the development of land use scenarios, as well as sustainable infrastructure design and delivery approaches that could be considered in the development of an infrastructure implementation and financing strategy in Phase II of the project. PIG groups generated different broad land use schemas for the area that were used to formulate alternative land use scenarios for TOD priority area buildout.

PIG agencies were tasked with providing the consultant team with as much information as possible on their current project plans. The alternative land use scenarios developed from information gathered and the charrette discussions were to be reviewed by the PIG to select a preferred land use scenario for the infrastructure assessment to be conducted in Phase II.

Materials from the charrettes are provided in Attachment D; charrette outcomes are summarized in the Oahu PIGs report presentation.

C. PIG Meeting 3, February 26, 2019—Review/selection of preferred land use scenario for infrastructure needs assessment

The third PIG meeting was convened to review the parameters developed for the land use scenarios for the TOD priority area, review maps of existing infrastructure conditions for the area, and to identify a preferred land use scenario for Phase II infrastructure assessment and financing strategy development. The first task for the PIG was affirming a proposed boundary for the priority area that encompassed State sites planned for TOD. The second task was to get agreement on the preferred land use scenario for potential buildout of the
priority area, including existing plans for State facilities and State TOD projects in the priority area.

**Project Area Boundary: East Kapolei TOD Priority Area**

The boundary for the East Kapolei TOD priority project area was selected in line with the City’s draft EK TOD Plan (2010) and planned large property development in the area that will be requiring regional infrastructure improvements. The project area includes three rail stations: Honouliuli (Hoopili), Keoneae (UH West Oahu), and Kualakai (East Kapolei).

**Planned Development.** The City’s EK TOD Plan is founded on principles that would create a dynamic mixed-use urban environment, provide a variety of housing choices, foster gathering places, and increase connections and access throughout the EK TOD Plan area. State and other large development projects that would contribute to realization of the City’s EK TOD Plan principles include:

- **Department of Hawaiian Homelands (DHHL):**
  - Residential communities of Kānehili and Kauluokahai, including Kauluokahai Increment IIA TOD project
  - Commercial development at Ka Makana Alii
o **University of Hawaii West Oahu (UHWO) Makai:**
  - University Village District lands—proposed for mixed-use development
  - Campus and campus-related growth and development
  - Department of Business, Economic Development and Tourism—proposed film studio

o **Department of Land and Natural Resources (DLNR):**
  - Four parcels along Kualakai Parkway and Farrington for which conceptual plans are being prepared; initial concepts include mixed-use and light industrial development

o **DR Horton’s Hoopili development:**
  - To include sites for new DOE schools: two elementary schools, one middle school, and a high school

o **City Farrington Highway Widening** to support these regional developments

### Infrastructure Maps: Existing Conditions (Attachment E)

PIG members were updated on information compiled on existing facilities and conditions and known plans for various infrastructure systems in the TOD priority area, as seen in the maps in *Attachment E*. These form the basis for determining where system expansion or redevelopment will be required to support planned TOD in the area.

### Land Use Scenarios Considered

- **Land Use Scenario: Existing City TOD Plan Modified by Current Conceptual Plans**
  
  This scenario represents planned development consistent with the draft City EK TOD Plan and existing plans for State-owned parcels and D.R. Horton’s Hoopili master plan. The scenario generally uses the draft EK TOD Plan land use designations and development intensity for estimating parcel buildout—as modified by current individual agency/landowner facility and project plans, which would include increased density on some State parcels. Based on preliminary land use estimates of current agency and major landowner plans, the potential buildout of residential units in 30-40 years could be in the range of 22,000 units, with as much as 11 million square feet of commercial, office, institutional, and other light industrial space being developed over that period.

- **Alternate Land Use Scenario: Charrette-proposed schema for increased connections and commercial activity on Kualakai Parkway**
  
  The charrette identified opportunities to increase connections between development across Kualakai Parkway both physically and functionally, rather than having Kualakai be the back edge of surrounding development. This alternative would entail improved connectivity and more commercial and mixed-use development along Kualakai Parkway, in addition to Complete Streets improvements for multi-modal access. PIG members discussed the potential for increasing walkability along Kualakai Parkway.
While mixed-use development and its orientation toward activating Kualakai Parkway at intersections and crossings are highly desirable and reasonable, members felt that the functional classification of Kualakai Parkway as a regional arterial with few mauka-makai reliever roads in the area presented challenges to activating the entire length of the Parkway streetscape.

Estimates of potential buildout of residential units and commercial, office, institutional, and light industrial space are subject to change as the land use numbers are finetuned for the preferred land use scenario.

The project area lies outside Sea Level Rise Exposure Areas mapped in conjunction with the *Hawaii Sea Level Rise Vulnerability and Adaptation Report* (Hawaii Climate Change Mitigation and Adaptation Commission, 2017), and at this time, appears to be at lower risk of potential impacts from sea level rise.

### III. Results / Outcomes for Consideration: Preferred Land Use Scenario

The PIG supported the defined boundary and *Existing City EK TOD Plan Modified by Current Conceptual Plans Land Use Scenario* for the Phase II infrastructure assessment work. The PIG also supported further refinement of the scenario by the consultant team, as needed, to verify project plan information with individual agencies. This scenario represents the most plausible land use pattern and density for State TOD projects in the area, and provides a reasonable baseline for identifying infrastructure needs and costs for State TOD buildout over time. The preferred land use scenario will be finalized by the consultant team in the coming month.

A preliminary map of the preferred land use scenario is provided on the following page. Assumptions for assessment of infrastructure needs for the preferred land use scenario include:

- Use of current conceptual land use plans for State and major landowner participants;
- No additional intersections along Kualakai Parkway; and
- Improvement of currently planned connections and intersections.

### IV. Recommendations

The East Kapolei PIG co-chairs recommend the following for TOD Council action:

1. At the TOD Council’s April 9, 2019 meeting, re-form the East Kapolei Permitted Interaction Group, constituted of the same members, to perform the tasks listed below and report back to the TOD Council at a date to be determined.
   a. Provide input to Phase II of the State TOD Implementation Plan (Oahu) Project for the East Kapolei TOD priority area and assist in:
      1. Identifying infrastructure costs, financing options, and phasing for infrastructure improvements required for the preferred TOD land use scenario for the East Kapolei area;
      2. Developing a preferred infrastructure implementation plan, phasing, and financing strategy for the TOD priority areas; and
      3. Developing recommendations for TOD-related CIP or other budget
requests to [implement infrastructure implementation] fund infrastructure improvements required for the TOD priority areas, including CIP and budget requests for TOD Council recommendation to the 2020 Legislature, as needed;

b. Identify near-term infrastructure and State TOD project implementation issues to be addressed by the PIG or other entities, develop and implement strategies to address these near-term issues as needed, and ensure that actions taken are integrated with options being considered and recommendations being developed in Phase II of the State TOD Project; and

c. Develop recommendations, as needed, for a public outreach strategy for State TOD implementation for this priority area.
Attachment A.
Presentation to TOD Council: Oahu PIGs Report, March 12, 2019
Project Purpose

- Coordinate approach between all stakeholders
- Coordinate regional infrastructure investments
- Identify source(s) of financing and best practices for TOD Implementation
- Consider incentives for landowner participation
- Identify sustainable development practices

Anticipated PIG Timeline: Phase 1
- 2018 July – December TASKS
- 2019 February Meeting – REPORT Recommendations and disband PIGs
- 2019 March/April Meeting – ACTION APPROVE Recommendations and establish PIGs to work on next project phase

Anticipated PIG Timeline: Phase 2
- 2019 January – September TASKS
- 2019 August Meeting – REPORT recommendations and disband PIGs
Phase 1: Process

- Compile existing planning documents
- Finance overview and presentation of information gathered
- Confirm landowner plans and incorporate any updates available
- Charrette
  - Review, refine, and enhance plans
- Presentations on Urban Design and Sustainability
- Determine preferred conceptual land use scenario to inform infrastructure needs and cost estimates

Phase 1: Meetings Held to Date

<table>
<thead>
<tr>
<th>Group</th>
<th>Date(s)</th>
<th>Topics Covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Coordinating Committee (PCC)</td>
<td>• June 1</td>
<td>• Kick-off meeting</td>
</tr>
<tr>
<td></td>
<td>• June 22</td>
<td>• Work Plan</td>
</tr>
<tr>
<td></td>
<td>• August 16</td>
<td>• Charrette Preparation</td>
</tr>
<tr>
<td></td>
<td>• September 21</td>
<td>• Charrette Summary</td>
</tr>
<tr>
<td></td>
<td>• November 2</td>
<td>• Project Boundary</td>
</tr>
<tr>
<td></td>
<td>• December 4 and January 23</td>
<td>• Land Use Scenario Review – PIG 3</td>
</tr>
<tr>
<td>Permitted Interaction Groups (PIGs)</td>
<td>• July 12 – 20</td>
<td>• Info Compiled to Date</td>
</tr>
<tr>
<td></td>
<td>• July 30</td>
<td>• Farrington Widening</td>
</tr>
<tr>
<td></td>
<td>• September 20 &amp; 21</td>
<td>• Charrettes</td>
</tr>
<tr>
<td></td>
<td>• February 26</td>
<td>• Preferred Conceptual Land Use Scenario</td>
</tr>
</tbody>
</table>

Conceptual Land Use Scenarios: Background Information

- City and County Neighborhood TOD Plans
- Plans and Studies shared by the State, City, and private entities
- Stakeholder input from the:
  - September Charrette
  - Homework and follow-up

Reminder: The project is focused on infrastructure needs and financing. The discussions in this meeting are based on conceptual land use scenarios to identify density and infrastructure needs. We are looking at density, phasing, and impacts of urban design features to inform the needs and costs.

Presentation: Oahu PIGs Report to TOD Council, March 12, 2019
East Kapolei PIG

Charrette Input: East Kapolei

Charrette Input: East Kapolei Summary

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Major Categories</th>
<th>Examples of Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>Infrastructure</td>
<td>Access, no grade separation</td>
</tr>
<tr>
<td>12</td>
<td>Connectivity</td>
<td>Distribute traffic, complete streets, ped/bike crossings</td>
</tr>
<tr>
<td>10</td>
<td>Development/Planning</td>
<td>Don’t turn backs on Kualakai</td>
</tr>
<tr>
<td>8</td>
<td>Community Atmosphere</td>
<td>Opportunities to reduce sound so no sound walls</td>
</tr>
<tr>
<td>5</td>
<td>Environment</td>
<td>Bridge/Incorporate Gulches – green corridors, cooling interpretive</td>
</tr>
<tr>
<td>3</td>
<td>Rail Stations</td>
<td>Commercial Hubs</td>
</tr>
<tr>
<td>Tied at 2</td>
<td>Residential</td>
<td>Mixed Use Town/Gown Hub</td>
</tr>
<tr>
<td></td>
<td>Ownership</td>
<td>Common vision for key development zone</td>
</tr>
<tr>
<td></td>
<td>Economy</td>
<td>Create a commercial hub/center of action</td>
</tr>
</tbody>
</table>
**Infrastructure: East Kapolei Drainage**

- **Master Planned for most of East Kapolei**
  - Most of the existing and planned drainage systems connect to Kaloi Gulch
  - Increase in runoff will be detained on-site
  - Increase in peak flow to be mitigated on site with detention basins
- **DLNR properties are in the planning stage**
  - Kaloi Gulch unchannelized through the DLNR lands
  - Increase in runoff and peak flow will have to be mitigated on-site

**Infrastructure: East Kapolei Sewer**

- **Master Planned for most of East Kapolei**
  - Underground sewer infrastructure will be constructed with the project roadways
  - Regional sewer allocation approved for DHHL, UHWO, and Hoopili
  - Regional trunk sewers do not have excess capacity
- **DLNR properties are in the planning stage**

**Infrastructure: East Kapolei Water**

- **Master Planned for most of East Kapolei**
  - Underground water infrastructure will be constructed with the project roadways
  - Water reservoirs and booster pump stations will be constructed as development progresses
  - Regional sewer allocation approved for DHHL, UHWO, and Hoopili
  - Water sources are adequate for more new developments but the Ewa Shaft is the next water source required to meet the needs of the Ewa Development Plan
- **DLNR properties are in the planning stage**

**Preferred Land Use Scenario PIG Recommendations: East Kapolei**

- Proceed with current conceptual land use scenarios for each of the various landowners
- Do not incorporate additional intersections along Kualakai
- Improve currently planned connections/intersections
Preferred Land Use Scenario Refinement: East Kapolei

- Update estimated development, conceptual land uses, and estimated phasing for landowners
- Further coordination with City on TOD Neighborhood Plan

Halawa-Stadium PIG

Project Area Boundary: Halawa-Stadium State Lands

Charrette Input: Halawa-Stadium

Presentation: Oahu PIGs Report to TOD Council, March 12, 2019
Charrette Input: Halawa-Stadium Summary

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Major Categories</th>
<th>Examples of Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>42</td>
<td>Development/Planning</td>
<td>Dense Core, Avoid Bifurcation of Housing types</td>
</tr>
<tr>
<td>36</td>
<td>Connectivity</td>
<td>Get across major thoroughfares, Bus loops, Trails, multimodal</td>
</tr>
<tr>
<td>30</td>
<td>Infrastructure</td>
<td>Central utility systems, Schools</td>
</tr>
<tr>
<td>14</td>
<td>Community Atmosphere</td>
<td>Community Plaza, Adequate Green Space</td>
</tr>
<tr>
<td>Tied at 8</td>
<td>Environment</td>
<td>Connect to water</td>
</tr>
<tr>
<td></td>
<td>Residential</td>
<td>Service Local Population</td>
</tr>
<tr>
<td>7</td>
<td>Ownership</td>
<td>Work with Federal Landowners</td>
</tr>
<tr>
<td>6</td>
<td>Economy</td>
<td>Differentiate Products</td>
</tr>
</tbody>
</table>

Infrastructure: Halawa-Stadium Drainage

- Ongoing Dredging Project
- Private Interceptor Ditch not Maintained
- Erosion DDC Bridge Project
- Red Hill Monitoring Wells

Infrastructure: Halawa-Stadium Sewer

Halawa / Waipahu / Pearl City
- Existing systems along Kam Hwy do not have capacity
- 3rd FM is proposed for Waipahu; construction tent scheduled for Dec. 2022 (subject to change)
- Dual FM will be rehabilitated and dedicated to Pearl City flows
- New PS by Waipahu for Pearl City to Waipahu
- Waimalu PS going out to bid soon

Halawa / Waipahu / Pearl City
- Existing systems along Kam Hwy do not have capacity
- 3rd FM is proposed for Waipahu; construction tent scheduled for Dec. 2022 (subject to change)
- Dual FM will be rehabilitated and dedicated to Pearl City flows
- New PS by Waipahu for Pearl City to Waipahu
- Waimalu PS going out to bid soon

Infrastructure: Halawa-Stadium Sewer (cont.)

Stadium Area
- Existing FM needs to be adjusted
- Military property wanted to convert City system, but was not accepted by City

Presentation: Oahu PIGs Report to TOD Council, March 12, 2019
Infrastructure: Halawa-Stadium Wastewater

- Existing system may be adequate for future developments
- BWS will model with proposed developments when development information is available

Preferred Land Use Scenario PIG Recommendations: Halawa-Stadium

- Stadium redevelopment on site with additional ancillary mixed-use development
- Pu‘uwai Momi at maxed out density
- At least one new DOE School
- Assume OCCC Relocates to Halawa

Preferred Land Use Scenario Refinement: Halawa-Stadium

- Update estimated development, conceptual land uses, and estimated phasing for landowners
- Combine concepts from TOD Neighborhood Plan
- Connectivity with region
- What can currently be accommodated, timing for additional facilities
- Vertical School vs current BOE standards
- Pearl Harbor Security
Iwilei-Kapalama

PiG

Project Area Boundary:
Iwilei-Kapalama State Lands

Charrette Input: Iwilei-Kapalama

Charrette Input: Iwilei-Kapalama Summary

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Major Categories</th>
<th>Examples of Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>53</td>
<td>Development/Planning</td>
<td>Sea level rise strategy applied Green spaces</td>
</tr>
<tr>
<td>30</td>
<td>Infrastructure</td>
<td>Control sea level rise Challenge to finance district</td>
</tr>
<tr>
<td>24</td>
<td>Connectivity</td>
<td>Hierarchy of streets Improve connections</td>
</tr>
<tr>
<td>14</td>
<td>Community Atmosphere</td>
<td>Focal point for community Programmatic connection</td>
</tr>
<tr>
<td>10</td>
<td>Economy</td>
<td>Fishing and Artisan villages</td>
</tr>
<tr>
<td>8</td>
<td>Residential</td>
<td>Mixed use with housing above other uses</td>
</tr>
<tr>
<td>7</td>
<td>Environment</td>
<td>Bioswales; Green corridors for flood retention</td>
</tr>
<tr>
<td>3</td>
<td>Ownership</td>
<td>District wide collaboration</td>
</tr>
<tr>
<td>2</td>
<td>Natural Hazards</td>
<td>Sea level rise underutilized</td>
</tr>
<tr>
<td>1</td>
<td>Rail Station</td>
<td>Retail / amenities at transit stations</td>
</tr>
</tbody>
</table>
Flooding in the Iwilei area is due to the following issues:

- Inadequate capacity of the existing drainage system
- Tidal effect may also contribute to flooding
- Only 1 of 2 private pumps works
- Plugged shallow drain and broken drain line

Awa Street Pump Station, force main, and sewer system improvements
- Phase 1 (including Waiakamilo Road relief sewer line)
- Phase 2 (including pump station upgrades)
- Hart Street Pump Station, Phase 3

Preferred Land Use Scenario PIG

- Baseline = TOD identified zoning without Sea Level Rise
- Order of magnitude costs for the region, assuming TOD Zoning is not applied to the portion impacted by SLR
- Two 3-acre DOE sites
- Assume OCCC Relocates to Halawa and the property is rezoned for TOD
Preferred Land Use Scenario Refinement: Iwilei-Kapalama

- Update estimated development, conceptual land uses, and estimated phasing for landowners
- Lifecycles of horizontal infrastructure versus buildings
- Consequences of not providing infrastructure for areas impacted by SLR
- How do you prioritize?

Next Steps:

- Land Use Scenario Refinement for Phase 2

Schedule for Phase 2:

- May 2019, Discuss Preferred Land Use Scenario, Cost, and Timing of Projects (PIGs Regrouped)
- July 2019, Discuss Financing and delivery of Preferred Land Use Scenario and Determine Approach
- August 2019, Discuss Preferred Implementation Plan and Schedule for Critical Path Analysis

For requests for materials and project or PIG-related questions, please contact dbedt.op.lud@hawaii.gov or Rodney Funakoshi at: rodney.y.funakoshi@hawaii.gov

If you have additional comments, thoughts, or materials to share, please e-mail Nathalie Razo at: nrazo@pbrhawaii.com

Thank you, any questions?
State TOD Planning and Implementation Project
Sponsor: Office of Planning, State of Hawai’i

Project Description
The project will produce a State Transit Oriented Development (TOD) Plan for project implementation and investments on State lands along the Honolulu Rail Transit Project corridor, particularly for projects that are beyond the scope and resources of any individual State agency to provide. In building off work that has already been done, development of the plan will require extensive coordination and collaboration with State and City agencies, as well as other stakeholders in each priority area.

The process will focus on conceptual area/site planning, infrastructure assessment, and access improvements analysis to determine shared investments, funding, and timeframes for critical infrastructure and other improvements necessary to enable development of State TOD projects. The plan will also serve as a critical tool for the State to assist and track actions needed to facilitate shared infrastructure investments and individual State agency project development along the rail corridor.

Such investments include, for example, wastewater system improvements in the Iwilei-Kapālama area that currently constrain TOD development potential for agencies such as HHFDC, DABS, UH Honolulu Community College, as well as future phases of HPHA’s Mayor Wright Homes redevelopment. While each of the priority areas are likely to have different infrastructure needs and timelines, the project as a whole will identify opportunities for collaboration on infrastructure investments and an overall strategy for infrastructure delivery that will benefit TOD project implementation on State lands and in surrounding neighborhoods.

Project Timeframe
June 2018–December 2019

Phase 1: Jun 2018–Dec 2018
Development of conceptual land use plan for State lands & identification of infrastructure requirements

Phase 2: Jan 2019–Dec 2019
Identification of infrastructure costs/financing & development of an infrastructure implementation plan, phasing & financing strategy

Project Consultant Team
PBR Hawaii (Prime)
Master planning, project management, and stakeholder outreach and engagement

RM Towill
Civil engineering

David Taussig & Associates
Development financing and alternative delivery methods

Fehr & Peers
Transportation engineering and multi-modal system planning

Callison RTKL
TOD master planning and urban design

Ron Ho & Associates
Electrical engineering and communications

ARUP
Green infrastructure and sustainable systems design
**Attachment C.**
**Permitted Interaction Group Meeting Attendees**

Mark Ritchie, Department of Business, Economic Development & Tourism  
Deepak Neupane, Hawaii Community Development Authority  
Carson Schultz, Hawaii Community Development Authority  
Craig Hirai, Hawaii Housing Finance & Development Corporation  
Leo Asuncion, Office of Planning  
Ruby Edwards, Office of Planning  
Rodney Funakoshi, Office of Planning  
Robyn Loudermilk, Department of Education, Office of School Facilities & Support Services  
Brenda Lowrey, Department of Education, Office of School Facilities & Support Services  
Kenneth Masden, Department of Education, Office of School Facilities & Support Services  
Heidi Meeker, Department of Education, Office of School Facilities & Support Services  
Darrell Ing, Department of Hawaiian Home Lands  
Allen Yanos, Department of Hawaiian Home Lands  
Ian Hirokawa, Department of Land & Natural Resources  
Blue Kaanehe, Department of Land & Natural Resources  
Russell Tsuji, Department of Land & Natural Resources  
Lynette Kawaoka, Department of Transportation, Airports  
David Rodriguez, Department of Transportation  
Ken Tatsuguchi, Department of Transportation, Highways  
Robert Miyasaki, Department of Transportation, Statewide Transportation Planning Office  
Carleton Ching, University of Hawaii  
Bonnie Arakawa, University of Hawaii West Oahu  
Kevin Ishida, University of Hawaii West Oahu  
Stan Katsura, City and County of Honolulu, Department of Design & Construction  
Mark Yonamine, City and County of Honolulu, Department of Design & Construction  
Renee Espiau, City and County of Honolulu, Department of Planning & Permitting  
Franz Kraintz, City and County of Honolulu, Department of Planning & Permitting  
Harrison Rue, City and County of Honolulu, Department of Planning & Permitting  
Kathy Sokugawa, City and County of Honolulu, Department of Planning & Permitting  
Jorge Felix, City and County of Honolulu, Honolulu Authority for Rapid Transportation  
Craig Arakaki, Engineering Concepts, Inc.  
Alan Arakawa, D.R. Horton  
Tracy Tonaki, D.R. Horton
Attachment D.
September 2018 Charrette Materials
TOD Council Permitted Interaction Groups

**Purpose**

“more in-depth and targeted discussions of regional and project implementation issues among directly affected agencies needed to advance project development”

**8 Permitted Interaction Groups**

- East Kapolei
- Halawa-Stadium
- Iwilei-Kapalama
- Kauai
- Maui
- West Hawaii
- East Hawaii
- Neighbor Islands

---

TOD Council Permitted Interaction Groups: Addressing Challenges and Needs for State TOD

**Challenges/needs identified by TOD Council**

- Need for unified, coordinated approach that melds State, County, private sector & community interests and provides strategic direction on investments & project specific coordination
- Coordination/sharing of regional infrastructure investments
- Committed source(s) of funding
- Incorporating best practices for TOD & financing
- Incentives for TOD to allow private & smaller land owner participation
- Incorporating sustainable development practices to address climate change

**PIGs:**

means to address challenges/needs in particular region

---

STATE TOD PLANNING & IMPLEMENTATION FOR THE ISLAND OF O‘AHU

East Kapolei Permitted Interaction Group – Workshop / Charrette

Friday, September 21, 2018

HCDA, Community Room

8:30 a.m. – 12:00 p.m.

OFFICE OF PLANNING

DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT, & TOURISM
Agenda

1. Introductions
2. Meeting Agenda, Objectives, and Ground Rules
3. Site Review and Considerations
4. Urban Design
5. Exercise 1: Teams Review Regional Plan
6. Infrastructure and Environmental Considerations
7. Exercise 2: Teams Enhance Design Concepts
8. Teams Report Back
9. Finance Considerations
10. Wrap-Up / Questions / Next steps

Objectives

- Consider regional synergies and conflicts and how they relate to the City’s Neighborhood TOD Plans
- Advance regional plans acknowledging infrastructure
- Introduce potential financing tools relevant to projects and/or landowners

Ground Rules

1. Work together
2. Look at the long term
3. Be honest about self interests
4. Be open to “showing your cards”
5. We’re here to brainstorm
6. Idea is to get good ideas on the table

Site Review & Considerations
Project TOD STATION ANALYSIS: EAST KAPOLEI

East Kapolei Neighborhood TOD Plan Vision:

- Sustainable, responsible, and integrated community
- Transit oriented development sites that provide a series of transportation options for residents, workers, and visitors alike
- Compact, pedestrian friendly environments that provide numerous housing, employment, and recreational opportunities

WHAT WE’VE HEARD TO DATE

- School facilities
- Connectivity
- Infrastructure

GROUP INPUT

Anything we’ve missed?
Urban Design

State TOD Planning & Implementation for the Island of O’AHU

SEP 19-21 CHARRETTE

SMART GROWTH + TRANSIT ORIENTED DEVELOPMENT

AVOIDING SPRAWL

## CONNECTION TO NATURE

- Preserve Natural Beauty, Open Space, and Critical Environmental Areas
- **✓** Improved Access / Increase Appreciation

![Diagram showing landscape features like flood plain, hazard zone, agriculture lands, steep slopes, and urban land reserve.](source)


## DEVELOPMENT LINKED TO INFRASTRUCTURE INVESTMENT

- **✗** “Leap Frog” Development
- **✓** Direct Development Towards Existing Communities

![Diagram showing development areas and infrastructure connections.](source)


## MORE CONVENIENCE

- Adjacent Amenities + Services
- **✓** Critical Mass of Local Population

![Diagram showing adjacent amenities like recreation, school, and commercial activity.](source)


## FOCUS ON PEDESTRIAN

- **✗** Car Dominant
- **✓** Walkable Neighborhood

![Diagram showing wide streets and pedestrian crossing versus compact, walkable neighborhoods.](source)

**COMPACT BLOCK STRUCTURE**

- Small blocks with diversity and higher efficiency
- Giant block with lower efficiency

**DIVERSITY OF LAND USE AND HOUSING**

- Mix of housing types
- Various parcel sizes and building scales

**HIGHEST DENSITY AT STATIONS**

- High density within walking distance of station

**INCREASED CHOICE IN MOBILITY AND LAND USE**

- Adjacent and vertically integrated mixed uses
- Multiple transportation choices

---

*Source: John Lund Kriken, City Building – Nine Planning Principles for the Twenty-first Century.*
**East Kapolei**

**Area Characters**
- At the outskirt of the urbanized area
- Near planned community - Kapolei - “second city” of Oahu
- Regional shopping center
- Natural resources – farmland, gulches, mountains, etc.
- H1 freeway access
- Future campus growth
- Competition w/ Kapolei’s future development

**TOD Principles**
- Town/Gown relationship – UC Berkeley
- Innovation cluster – Novus, Tech Square
- Student/Faculty/Entrepreneur-centric – USC Village
- Streets for people – My Fig
- Green network – Celebration FL
- Flexibility for growth – UC Merced

Source:

** Appealing Streetscape and Intimate Spaces**

- Streets for People
- Provide ‘Assets’ of Livability
1 TOWN/GOWN RELATIONSHIP

Downtown Berkeley Station Hub
UC BERKELEY
Berkeley, California

A modernized dinning, arts, and education hub facilitating connectivity to adjacent university and downtown.

STATION HUB SERVES BOTH CAMPUS & NEIGHBORHOOD

STATION SUPPORTIVE DEVELOPMENT

• LOCATION: On Shattuck Avenue between Allston Way & Addison St. Within a 0.25 mile radii of campus

• SURROUNDING DEVELOPMENT:
  - Over 1,400 residential units
  - 90,000 sq ft of retail space

• MULTI MODAL CONNECTIONS:
  - AC Bus Transit
  - Bicycle Facilities & Network
  - Walkable Pedestrian Network
  - Zipcar
**STATION AS A WORLD-CLASS GATEWAY**

- **LESSONS LEARNED**
  - Community based functionality
  - Establish Station as a world-class gateway to the city and UC Berkeley Campus
  - Enhance access between station and Downtown Berkeley neighborhoods
  - Improve the station’s function, safety, capacity and appearance
  - Incorporate art and community identity into the stations placemaking efforts
  - Reflect BART systems sustainability goals
  - Add station amenities to improve commuter experience

- **Modernized Entry**
- **Active Frontages**
- **Placemaking**
- **Multi-modality**
- **Bike Valet**
- **Station Plaza**

---

**INNOVATION CLUSTERS**

**Novus Innovation Corridor**

A sustainable, technology oriented, world-class community adjacent the university and regional transit corridor.

ARIZONA STATE UNIVERSITY
Tempe, AZ

---

**A TECH ORIENTED COMMUNITY NEAR CAMPUS**

LOCATION: Downtown Tempe adjacent ASU campus

PROJECT SIZE: 8 million GSF+/-(Phase 1: 1 million GSF+/-, 20 AC SITE AREA)

LESSONS LEARNED:
- Flexibility of master plan
- Mix of Class A office, residential, hotel, retail, and entertainment
- 5 neighborhoods with distinctive character that complement one another
- Apply innovation products & ideas to overall community improvement
- Leverage adjacent world-class sports and entertainment destination
- Employ sustainability & smart city technologies in campus design
- ASU-driven smart partnerships of 500+ global companies
- Brings in approximately 20,000 jobs and 5,000 residents
A flexible master plan for accommodating future growth

Tech Square ATL
Georgia Tech University
Atlanta, Georgia

A creative cluster with highest density of startups, corporate innovators, researchers, and students.

Innovation District Adjacent Campus

Introduction of Highrise Housing

Flexible Master Plan

MIX OF HOUSING, CREATIVE OFFICES, START UPS, HOSPITALITY

• LOCATION: Adjacent to Georgia Tech University Campus. Within 1/2-1/4 mile radii of Midtown Station

• DISTRICT SIZE:
  1.4 million-square-foot bike-friendly, urban mixed-use development
  1.2 Square Mile Midtown Improvement District

• MULTI MODAL CONNECTIONS:
  MARTA Rail
  Bus Transit
  Bicycle Network & Relay Bikes
  Tech Trolley
  Zipcar
  Walkable Campus Network

• LESSONS LEARNED:
  Attract creative class workers
  Create more destinations around MARTA
  Reduce congestion
  Support high rise housing
  Density and rich mix of land uses
  Creating more of a “24/7” environment

Location: Adjacent to Georgia Tech University Campus. Within 1/2-1/4 mile radii of Midtown Station

District Size:
  1.4 million-square-foot bike-friendly, urban mixed-use development
  1.2 Square Mile Midtown Improvement District

Multi Modal Connections:
  MARTA Rail
  Bus Transit
  Bicycle Network & Relay Bikes
  Tech Trolley
  Zipcar
  Walkable Campus Network

Lessons Learned:
  Attract creative class workers
  Create more destinations around MARTA
  Reduce congestion
  Support high rise housing
  Density and rich mix of land uses
  Creating more of a “24/7” environment

East Kapolei PIG Meeting 2: Workshop / Charrette, Sept 21, 2018
ACCESIBLE AMENITIES + MULTIPLE TRANSPORTATION CHOICES

BRANDING AND WAYFINDING STRENGTHENS THE ENTRY OF THE AREA

STUDENT/FACULTY/ENTREPRENEUR-CENTRIC AMENITIES & SERVICES

USC Village
University of Southern California
Los Angeles, California

A transit accessible living and learning environment fostering a built-in community open to USC’s community and neighbors.
ACCESSIBLE AMENITIES & SERVICES FOR STUDENTS AND NEIGHBORHOODS

KEY CHARACTER & LESSONS LEARNED

• LOCATION: Adjacent to USC Campus. Within a 0.30 mile radii of Expo Station

• VILLAGE SIZE:
  - 15 AC campus extension
  - 148,000 ground floor retail
  - 663 student housing units

• MULTI MODAL CONNECTIONS:
  - Metro Rail
  - Metro Bus Transit
  - Bicycle Network
  - Walkable Campus Network

• LESSONS LEARNED
  - Increase student housing to reinforce USC as a residential campus
  - Enhance the pedestrian experience of the campus.
  - Use flexible planning frameworks to allow for uncertainties of future campus development needs and opportunities.
  - Use open space and circulation as the organizing framework.
  - Identify opportunities to make mutually beneficial connections, provide continuity and enhance the physical form, enjoyment and use of the campus and its surrounding residential community.
  - Use traffic moderation strategies and encourage multimodal transportation.

MULTIPLE TRANSPORTATION CHOICES + DIVERSE PROGRAMS

STREETS FOR PEOPLE
My Fig Project
LOS ANGELES, CA

A complete street project transforms the corridor into a multimodal street that better serves the needs of pedestrians, bicyclists, transit riders, and drivers alike.

CREATE A STREET FOR PEOPLE

LOCATION: Along Figueroa Street from 7th Street to Martin Luther King Jr. Blvd.

LESSONS LEARNED:
• Complete street corridor
• Remake Figueroa Street for people
• Better signalization and signage, high-visibility crosswalks, transit platforms, more street trees, and public art
• A 3-mile protected bike lane expand city’s bike network
• Funded by a Proposition 1C grant. Proposition 1C funding improves infrastructure for new development in urban areas, with the goal of making streets, sidewalks and transit more accessible for residents of affordable housing

Bell Street Park
SEATTLE, WA

A park-like transportation corridor through the belltown shared by pedestrians, cyclists, and automobiles.

SHARED BY ALL MODES

LOCATION: Bell street from 1st – 5th Ave

PROJECT SIZE: 56,000 square-foot

LESSONS LEARNED:
• A raised, shared street space
• A single travel lane for pedestrians, buses, bicyclists, and autos
• Improved landscaping, better lighting, and more open space
• Strong city/community collaboration
• Programming and community events
• Promote the growth of Belltown as a compact, mixed-use, multi-modal neighborhood
A planned suburb community developed by Disney Company uses a daylighted gulch as a green infrastructure.

**SUBURBAN PLANNED COMMUNITY**

**Celebration Town**
CELEBRATION, FL

A street park

**GREEN NETWORK**

LOCATION: Celebration, FL

PROJECT SIZE: 11 Sq Mi

LESSONS LEARNED:
- A master-planned community with residential, retail, live/work, and civic component
- A direct Connection with Disney World Resort
- Naturalized /daylighted gulch act as a green infrastructure spine that links the golf course and the lake.
- A green space network comprises of parks, gulch, recreational space, etc.
DAYLIGHTING GULCH AS GREEN INFRASTRUCTURE SPINE

LOCATION: San Joaquin Valley, CA
PROJECT SIZE: 2000 +/- AC

LESSONS LEARNED:
• A compact, walkable environment for living and learning.
• Dynamic public spaces
• Adapted to changes in use and future expansion.
• Preserves the agricultural and environmental basis of its economy and ecosystem
• Sustainability: “triple net zero”—zero net energy, zero landfill waste, and zero net greenhouse gas emissions.
• The expansion is being delivered as a P3 structure.

FLEXIBILITY FOR GROWTH

SUBURBAN PLANNED COMMUNITY

UC Merced
SAN JOAQUIN VALLEY, CA

A compact walkable campus designed w/ consideration for accommodating future expansion.
Exercise 1: Review Regional Plans

- Roadway networks master planned for most of East Kapolei in DHHL, Hoopili and UHWOC
- Roadways to be constructed in phases.
- Roadways will be constructed to support the developments.
- Need to improve Farrington Highway from the Kapolei Golf Course Driveway to Ft. Weaver Road
- DLNR properties are in the planning stage.
WATER AND SEWER

- Water and sewer are master planned for most of East Kapolei for DHHL, UHWOC and Hoopili.
  1. Underground Water and Sewer Infrastructure will be constructed with the Project Roadways.
  2. Water Reservoirs and Booster Pump Stations will be constructed as Development Progresses.
  3. Regional Water Allocations approved for these developments
  4. Water sources are adequate for more new development but the Ewa Shaft is the next water source required to meet the needs of the Ewa Development Plan
  5. Regional Sewer Allocations approved for these developments
  6. Regional Trunk Sewers do not have Excess Capacity
- DLNR Properties are in the Planning Stage.

DRAINAGE

- Drainage is master planned for most of East Kapolei for DHHL, UHWOC and Hoopili.
  1. Most of the Drainage Existing and Planned Drainage Systems Connect to Kaloi Gulch
  2. Increase in Runoff will be Detained on-site
  3. Increase in Peak Flow to be Mitigated on-site with Detention Basins
- DLNR Properties are in the Planning Stage
  1. Kaloi Gulch is Unchannelized through the DLNR Lands
  2. Increase in Runoff and Peak Flow will have to be Mitigated on-site

ELECTRICAL AND TELECOM

- Electrical and Telecommunications Systems are Master Planned for DHHL, UHWOC and Hoopili.
  1. New underground infrastructure will be constructed within the project roadways to support the development.
  2. New substations will be required to provide electrical distribution service to these areas.
- DLNR Lands are in the Planning Stage
A 66% chance if we act effectively

Optimism at the 2018 Global Climate Summit

• The mayors of 19 cities presiding over 130 million city-dwellers including Copenhagen, Johannesburg and Tokyo, made a net-zero carbon pledge for all new buildings by 2030.
• 400 investor members, representing $32 trillion in assets, committed “to accelerate and scale up” climate action to support the Paris Agreement.
• The Under2 Coalition now represents 43% percent of the planet’s economy and 1.3 billion people.
• The We Are Still In campaign now counts 3,540 corporate signatories pledging to uphold the Paris Agreement.

Hawaii becomes first State to pass laws supporting Paris Climate Accord (June 2017)

“climate change... is the overriding challenge of the 21st century [and] ...poses immediate and long-term threats to the State’s economy, sustainability, security, and way of life.

...The State shall expand strategies... among all agencies, departments, industries, and sectors, including transportation.”

Gov. Ige signed SB 559 (Act 032), June 2017

Affordable, Healthy, and Innovative

Climate Positive Communities
Effective Action – Climate Positive Community

1. Dense
2. Walkable
3. Efficient
4. On-site Renewable
5. Off-site Renewable
6. Trees + Travel
75 Density Enables Deep Improvements

Density Enables Deep Improvements

Density Scenario 1 - Carbon Per Person

Density Scenario 2 - Carbon Per Person

Optimal Scales

East Kapolei PIG Meeting 2: Workshop / Charrette, Sept 21, 2018

ARUP
Optimal Scales

Optimal Scales

Saving millions of dollars per year

Establish, Expand, Optimize, Maximize
Zero Net Carbon Performance Standards

Adaptation

Resistance & Resilience

Act Successfully: Comprehensive + Time Based
Building Community + Innovation

Climate Resilience Design Guidance

Climate Resilience Design Data
De-site – Cheonggyecheon Stream

Synergies – Heat Island Reduction

Masonic Boulevard

Masonic Boulevard
“Years from now, you’ll be more disappointed by what you haven’t done than what you have.”

Mark Twain

Green Infrastructure - Bioswales
Exercise 2: Enhance Design Concepts

Report Back

What about Finance?
Next Steps

• "Homework"
• Compilation of alternatives
• We’ll keep in touch!

For requests for materials and project or PIG-related questions, please contact dbedt.op.lud@hawaii.gov or Rodney Funakoshi at: rodney.y.funakoshi@hawaii.gov

If you have additional comments, thoughts, or materials to share, please e-mail Nathalie Razo at: nrazo@pbrhawaii.com

Thank you, any questions?
Attachment E.
Key Infrastructure Conditions in East Kapolei TOD Priority Area
Infrastructure: Sewer

- Master Planned for most of East Kapolei
  - Underground sewer infrastructure will be constructed with the project roadways
  - Regional sewer allocation approved for DHHL, UHWO, and Hoopili
  - Regional trunk sewers do not have excess capacity
- DLNR properties are in the planning stage
Infrastructure: Drainage

- Master Planned for most of East Kapolei
  - Most of the existing and planned drainage systems connect to Kaloi Gulch
  - Increase in runoff will be detained on-site
  - Increase in peak flow to be mitigated on-site with detention basins
- DLNR properties are in the planning stage
  - Kaloi Gulch unchannelized through the DLNR lands
  - Increase in runoff and peak flow will have to be mitigated on-site
Infrastructure: Water

- Master Planned for most of East Kapolei
  - Underground water infrastructure will be constructed with the project roadways
  - Water reservoirs and booster pump stations will be constructed as development progresses
  - Regional sewer allocation approved for DHHL, UHWO, and Hoopili
  - Water sources are adequate for more new developments, but the Ewa Shaft is the next water source required to meet the needs of the Ewa Development Plan
- DLNR properties are in the planning stage