Highways Division

KALIHI STREET IMPROVEMENTS

Nimitz Highway to School Street
Highways Division

KALIHI STREET IMPROVEMENTS
Nimitz Highway to School Street

Project Location
Project Purpose and Need

- 16,700 to 26,100 vehicles per day
- Roadway last resurfaced in 1995
- Deteriorated road surface due to years of heavy use
- Road surface, curbs and gutters, and other features need repair
Project Scope

- Cold planing
- Resurfacing
- Repairing weakened pavement areas
- Replacing curb, gutter & sidewalk on Diamond Head side
- Replacing planting strip with concrete to widen sidewalk
- Replacing drain inlet grates
- Installing loop detectors, pavement markings, striping and signing
- Adjusting utility manholes/handholes and pullboxes
- Relocating portion of chain link fence and widening sidewalk at Farrington HS corner at King Street
Environmental Clearances

- NEPA – Categorical Exclusion (pending Section 106)
  - Section 106 (determination letter at SHPD for concurrence)
  - Section 7 (approved)

- HEPA (Section 343) – EIS Exemption (pending)

- NPDES permit (approved)

- Community Noise Variance (pending public informational meeting)
Highways Division
KALIHI STREET IMPROVEMENTS
PRELIMINARY PEDESTRIAN STUDY

• DATA COLLECTION
  • COLLECTED JAN 24, 12 HR PERIOD
  • PEDESTRIAN AND VEHICLE VOLUMES WERE TAKEN THROUGH VIDEO
    AND MANUAL COUNTS
  • PEDESTRIAN BEHAVIOR WAS OBSERVED THROUGH FIELD
    OBSERVATIONS

• DATA PROCESSING
  • PEDESTRIAN VOLUMES EXCEED 100 PER PEAK HOUR
  • AM PEAK IS A STEADY FLOW OF STUDENTS
  • PM PEAK HAS A LARGE CONCENTRATION OF STUDENTS CROSSING
  • PEDESTRIANS COMPRISED OF SCHOOL CHILDREN AND GUARDIANS
  • DRIVERS ARE GENERALLY AWARE PEDESTRIANS
  • SPEED IS GENERALLY WITHIN THE SPEED LIMIT
  • SB VOLUMES RELATIVELY LIGHT COMPARED TO NB TRAFFIC, WHICH IS
    ABOUT DOUBLE THE SB VOLUMES
1. RRFB
2. SPEED TABLE
3. TRAFFIC SIGNAL
4. LANE SIZING
5. LANE SIZING with TRAFFIC SIGNAL
Highways Division
KALIHI STREET IMPROVEMENTS
PRELIMINARY PEDESTRIAN STUDY

PRELIMINARY RECTANGULAR RAPID FLASHING BEACON (RRFB) ALTERNATIVE
PRELIMINARY RECTANGULAR RAPID FLASHING BEACON (RRFB) ALTERNATIVE

*Example of an RRFB in operation at alternate location
## PRELIMINARY RECTANGULAR RAPID FLASHING BEACON (RRFB) ALTERNATIVE

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Concerns</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Increases the acknowledgement of pedestrians</td>
<td>• Unfamiliar systems may confuse drivers</td>
</tr>
<tr>
<td>• Potential for longer gap time for pedestrians to cross</td>
<td>• Slows vehicle flow and will contribute to vehicular queuing</td>
</tr>
<tr>
<td></td>
<td>• Close proximity of crossings may create depth confusion</td>
</tr>
<tr>
<td></td>
<td>• There is no countdown to know when beacons will stop flashing</td>
</tr>
<tr>
<td></td>
<td>• Potential for pedestrians to be in travel lane when flashing beacon stops</td>
</tr>
<tr>
<td></td>
<td>• Drivers may stop unnecessarily at stop bar when no pedestrians are present</td>
</tr>
</tbody>
</table>
PRELIMINARY SPEED TABLE ALTERNATIVE
PRELIMINARY SPEED TABLE ALTERNATIVE

*Example of a speed table in operation at alternate location*
### PRELIMINARY SPEED TABLE ALTERNATIVE

<table>
<thead>
<tr>
<th>Benefits</th>
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<tbody>
<tr>
<td>• Increase the acknowledgement of pedestrians</td>
<td>• Slows vehicle flow and may contribute to vehicular queueing</td>
</tr>
<tr>
<td>• Reduces traffic speed</td>
<td>• Potential for noise in residential area</td>
</tr>
<tr>
<td></td>
<td>• Difficult to remove once installed</td>
</tr>
<tr>
<td></td>
<td>• Slows emergency response vehicles</td>
</tr>
<tr>
<td></td>
<td>• Maintenance issue of having to repaint striping</td>
</tr>
</tbody>
</table>
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PRELIMINARY PEDESTRIAN STUDY

PRELIMINARY TRAFFIC SIGNAL ALTERNATIVE
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PRELIMINARY PEDESTRIAN STUDY

PRELIMINARY TRAFFIC SIGNAL ALTERNATIVE
## Preliminary Traffic Signal Alternative

<table>
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<th>Benefits</th>
<th>Concerns</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Pedestrians protected from traffic</td>
<td>• May slow vehicular flow and may contribute to vehicular queueing</td>
</tr>
<tr>
<td>- Regulation of left turns going into Kalakaua Middle School</td>
<td>• Traffic signal is only provided at Kaumualii Street. Other crossings are still unprotected</td>
</tr>
<tr>
<td>- Will be synchronized to create a reduced traffic break between Ashford Street and Kaumualii Street allowing for longer gap periods for pedestrian crossings</td>
<td></td>
</tr>
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</table>
Highways Division
KALIHI STREET IMPROVEMENTS
PRELIMINARY PEDESTRIAN STUDY

PRELIMINARY LANE SIZING ALTERNATIVE
PRELIMINARY LANE SIZING ALTERNATIVE
**PRELIMINARY LANE SIZING ALTERNATIVE**

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Concerns</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Pedestrians cross three lanes instead of four lanes</td>
<td>• Reduces the capacity for southbound traffic</td>
</tr>
<tr>
<td>• Potential to reduce traffic speed</td>
<td>• Need to coordinate with garbage pickup and mail delivery</td>
</tr>
<tr>
<td>• Provides refuge for pedestrians</td>
<td>• Potential for queueing from right turns onto side streets</td>
</tr>
<tr>
<td>• Provides ability for pedestrians to cross in two stages</td>
<td>• Potential for residents along Kalihi Street to encroach into striped median</td>
</tr>
</tbody>
</table>
PRELIMINARY LANE SIZING WITH TRAFFIC SIGNAL ALTERNATIVE
Highways Division
KALIHI STREET IMPROVEMENTS
PRELIMINARY PEDESTRIAN STUDY

PRELIMINARY LANE SIZING WITH TRAFFIC SIGNAL ALTERNATIVE

PRELIMINARY LANE SIZING W/SIGNAL ALTERNATIVE
Benefits

- Pedestrians protected from traffic
- Regulation of left turns going into Kalakaua Middle School
- Will be synchronized to create a reduced traffic break between Ashford Street and Kaumualii Street allowing for longer gap periods for pedestrian crossings
- Pedestrians cross three lanes instead of four lanes
- Potential to reduce traffic speed
- Provides refuge for pedestrians
- Provides ability for pedestrians to cross in two stages

Concerns

- May slow vehicular flow and may contribute to vehicular queueing
- Traffic signal is only provided at Kaumualii Street. Other crossings are still unprotected
- Reduces the capacity for southbound traffic
- Need to coordinate with garbage pickup and mail delivery
- Potential for queueing from right turns onto side streets
- Potential for residents along Kalihi Street to encroach into striped median
Preliminary Alternatives under Further Consideration

1. Traffic Signal
2. Lane Sizing
3. Lane Sizing with Traffic Signal
Farrington High School corner

- Relocate portion of chain link fence and widen sidewalk
- Greater sight distance for vehicles turning right from King Street
- Wider sidewalk for pedestrians to use

Highways Division

KALIHI STREET IMPROVEMENTS
Nimitz Highway to School Street
Pedestrian Bridge

- Railing is currently 36 inches high
- New railing will be 42 inches high to accommodate bicyclists
- Chain link mesh behind the railing will be added to prevent falls through the railing
- This work to be done under a separate procurement
Bus Shelter near Ashford Street

- The bus shelter would be relocated into HECO property
- The sidewalk would be free of this obstacle, leaving more room for pedestrians
- This work to be done under a separate procurement
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KALIHI STREET IMPROVEMENTS
Nimitz Highway to School Street

Project Development Time Frame
- Noise Variance Public Meeting – February 24, 6 pm Farrington HS Library
- Anticipated RTA – May 2017
- Anticipated NTP – October 2017
- Anticipated Construction Time – 1 year

Anticipated Construction Impacts
- Single lane closures in each direction
- Anticipated night work between 8:30 PM and 4:30 AM, Sunday night to Friday morning