Farrington Highway Intersection Improvements

Project Area & Purpose

GOALS

1. Improve safety for drivers, pedestrians and cyclists

2. Reduce congestion through busy Nanakuli corridor
Farrington Highway Intersection Improvements
Nanakuli Ave Intersection

- Auxiliary lane removes left turning traffic from through lanes
- Maximizes traffic flow with 2 through lanes in each direction
- Shared use path improves pedestrian and bicyclist safety and access, with walkway fronting park, school and learning center
Farrington Highway Intersection Improvements

Haleakala Ave Intersection

Existing Haleakala Avenue and Farrington Highway Intersection

Future Haleakala Avenue and Farrington Highway Intersection with Proposed Improvements
Farrington Highway Intersection Improvements

Project Improvements

- 10’ Existing Pedestrian & Utility Corridor
- 11’ Travel Lane
- 11’ Travel Lane
- 10’ New Auxiliary Lane
- 11’ Travel Lane
- 11’ Travel Lane
- 6’ Grassed Area with Street Light Poles
- 8’ Shared Use Path
- 8’ Realigned Tracks

Not To Scale
Farrington Highway Intersection Improvements
Current Status – thru December 2015

- **Day time work**
  - **Limited lane closures**
    - Approximately 1 week of closures during July to move the concrete barriers from their current location to the Waianae side of the job.
    - Approximately 1 week of closures in December to remove the barriers from the site entirely.
  - **Makai side work behind concrete barriers:**
    - Realign historic OR&L railroad tracks
    - Relocate utilities and install new lighting
    - Construct retaining walls and shared use path
    - Road widening
Farrington Highway Intersection Improvements

Upcoming Work from late 2015 to Summer 2016

- Work will require lane closures:
  - Relocate and adjust utilities on Mauka side
  - New drainage lines, inlets, curbs and gutters on Mauka side
  - Pave new roadway surface
  - Restripe lanes and crosswalks
  - Install new traffic signal systems

- Day time lane closures will impact traffic
- Night time lane closures require HDOT Noise Variance
Noise Regulations

- HAR Title 11, Chapter 46 sets the rules and restrictions on sound levels for construction projects. It states:

  “No permit shall allow any construction activities which emit noise:

  - Monday thru Friday before 7 a.m. and after 6 p.m. of the same day
  - Saturday before 9 a.m. and after 6 p.m.
  - Sundays and on Holidays”

- A Noise Permit Variance must be obtained for any construction activities to occur outside the permissible hours (i.e. after 6 p.m. weekdays).
Proposed Noise Variance

- Variance application requests work be allowed 24 hours, 7 days a week, 365 days a year.

- Activities that do not require Farrington Hwy through lane closures could be conducted at any time, day or night.

- Night work construction duration is estimated at 13 months.
Proposed Noise Variance

- Activities along Farrington Hwy would be conducted:
  - Sunday nights – Friday mornings, approximately 7:00 p.m. to 4 a.m.
- Special operations may require longer lane closures
- No anticipated weekend work
# Typical Sound Levels

<table>
<thead>
<tr>
<th>Relative Sound Level</th>
<th>Indoor Office</th>
<th>Urban Residential</th>
<th>Urban Commercial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lmax of Common Noise Sources</td>
<td>Washing Machine (3 ft)</td>
<td>Auto (50 mph at 50 ft)</td>
<td>Vacuum Cleaner (3 ft)</td>
</tr>
<tr>
<td>Sound Level dBA</td>
<td>60</td>
<td>65</td>
<td>70</td>
</tr>
<tr>
<td>Lmax at 50 ft of Transit Noise Source</td>
<td>Rail Transit with a Barrier (50 mph)</td>
<td>Rail Transit City Bus (50 mph)</td>
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</tbody>
</table>

Source: EPA 1971, EPA 1974, FTA 2006
As sound travels away from its source, it becomes quieter.

More sound is received by an ear 10 feet from a source than at 20 feet from the source.

For construction, noise decreases at a rate of 6 to 8 dBA each time the distance from the source doubles.
## Construction Equipment

Noise level (dBA) at 50 feet

<table>
<thead>
<tr>
<th>Equipment</th>
<th>60</th>
<th>70</th>
<th>80</th>
<th>90</th>
<th>100</th>
<th>110</th>
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<tbody>
<tr>
<td>Truck</td>
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<td>Saw</td>
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<td>Light tower</td>
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<td>Cold planer</td>
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<td>Paver</td>
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<td>Roller</td>
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<td>Striping machine</td>
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<td>Concrete truck</td>
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<tr>
<td>Backhoe/loader</td>
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<tr>
<td>Compressor</td>
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<tr>
<td>Generator</td>
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<td>Crane (movable)</td>
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<tr>
<td>Jack hammer</td>
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<tr>
<td>Jumping jack</td>
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<tr>
<td>Hoe ram</td>
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</tbody>
</table>
Construction Noise Mitigation

- Use of adequate sound mufflers and intake silencers for construction equipment
- Stage compressors and generators as far from residences as possible
- Perform louder work earlier in the shift where possible
Department of Health Questions

- The possible operation of the jackhammer, pile driver and hoe ram.
  - There will be no use of a jackhammer or pile driver. A hoe ram will be used for all trenching work as needed (example: excessively hard coral, concrete or obstructions).

- The decibel levels of the hoe ram. 95-106 decibels

- Any plans and procedures for the attenuation of hoe ram noise
  - There are no noise mitigation devices for a hoe ram. It will be operated in a trench so that will help to muffle sound.

- Time and duration that the hoe ram will be operated
  - The hoe ram will only be used when necessary from January – May 2016, approximately 7pm – 11pm. No hoe ram work allowed from 11pm-7am.

- Locations where the hoe ram will be operated along Farrington Hwy
Locations where the hoe ram may be operated along Farrington Hwy
HDOT Noise Variance

- Application to be submitted to Department of Health for night time construction.
- If approved, work requiring lane closures will be shifted to night schedule in late 2015.
- Daytime lane closures will be kept to a minimum.
- Weekend work is not anticipated.
Farrington Highway Intersection Improvements

Public Comment Period

- Please be respectful to those speaking
- Please keep focused on the noise variance issues for the proposed project
- Please use the microphone
More Information

HDOT

dotpao@hawaii.gov
hidot.hawaii.gov
HDOT Facebook & Twitter
587-2160
Thank you for your patience as HDOT works to improve our state highways.