Traffic Signal Modernization, Oahu, Phase 1 and Kalanianaole Hwy Intersection Improvements at Waa St

Community Informational Meeting and Noise Variance Consultation

Aina Haina Public Library
Tuesday, November 5, 2019 @ 6:30pm
Purpose of Meeting

• Inform community about planned traffic signal improvements at two (2) intersections along Kalanianaole Highway.

• Invite comments for the Community Noise Variance Application. Comments will be used by the State Department of Health, Indoor and Radiological Health Branch (DOH-IRHB) to evaluate the noise variance request.
Meeting Agenda

- Reason for Night Work
- Noise Regulations
- Kalaniiki St / Waieli St Intersection
- Waa St Intersection
- Question and Answers
Reason for Night Work

- Kalanianaole Highway is the primary highway connecting East Honolulu and Downtown Honolulu.

- Night work will minimize traffic congestion and delays.
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 through Friday before 7 am and after 6 pm of the same day
- Saturday before 9 am and after 6 pm
- Sundays and on Holidays”

A Community Noise Variance must be obtained for any construction activities to occur outside the normally permitted hours.
Kalaniiki St/Waieli St Intersection

Project Purpose and Need:
The project purpose is to install new traffic signal equipment that meets current State of Hawaii, Federal, and American Association of State Highway and Transportation Officials (AASHTO) standards.
Project Description

- Modify curb, gutter, sidewalk, and curb ramps
- Upgrade of median impact attenuators
- Install of new traffic signal equipment
- Install underground duct lines
- Restore pavement and striping
Project Description

• Remove existing signal system.

• All work will occur in State or City right-of-way.

• Expected start date: August 2020

• Expected end date: July 2021
Traffic Impacts

• One to two lanes along Kalanianaole Highway will need to be closed temporarily during night work.

• All lanes along Kalanianaole Highway, Kalaniiki Street, and Waieli Street will be open for traffic during daytime hours.
Proposed Noise Variance Hours

- Sunday 9:00 a.m. to 6:00 p.m.
- Sunday 8:00 p.m. to Monday 5:00 a.m.
- Monday 8:00 p.m. to Tuesday 5:00 a.m.
- Tuesday 8:00 p.m. to Wednesday 5:00 a.m.
- Wednesday 8:00 p.m. to Thursday 5:00 a.m.
- Thursday 8:00 p.m. to Friday 5:00 a.m.
• Equipment such as concrete saw (90 dBA) and jackhammer (88 dBA) may be used to remove pavement, curb, sidewalk, and other concrete demolition work.

• Trenching will likely be done by backhoe (85 dBA) or trencher (85 dBA).
Foundations may be dug by an auger (85 dBA). The hole depth may vary from 6 to 11 feet deep.

Cranes (85 dBA) will be used for traffic signal pole installation.
For construction, noise decreases at a rate of 6 to 8 dBA each time the distance from the source doubles.

Distances between the work area and the closest noise sensitive receptors is in the order of 20 to 25 feet.
Existing Noise Levels

- DOH night-time noise limit for residential areas is 45 dBA at the property line.

- Most construction equipment emit higher noise levels.

- Existing noise levels were RECORDED during the evening and early morning hours.
Location of Noise Measurements

Kalani High School
Kalanianaole Hwy

Noise Measurement Location

Screen Wall

Kalani High School
Kalanianaole Hwy

Noise Measurement Location

Screen Wall

Kalani High School
Kalanianaole Hwy

Noise Measurement Location

Screen Wall

Kalani High School
Kalanianaole Hwy
Recorded Existing Noise Levels

- 7 pm to 12 midnight: 65 to 70 dBA
- 12 midnight to 5 am: 56 to 66 dBA
- Behind 6-foot high screen wall: reduce by 5 dBA
- Behind first row of houses: reduce by 5 to 20 dBA
• Unless authorized by DOT, noise levels produced will not exceed:
  - 95 dBA for more than 10% of the time at 50-foot distance from 8 pm to midnight
  - 75 dBA for more than 10% of the time at 50-foot distance from midnight to 5 am

• Flaggers will be employed in place of back-up alarms where safety laws allow.
Noise Mitigation - Plans and Procedures

- Use of construction equipment with exposed engine compartments will not be allowed.

- Use of power tools, pneumatic tools, hammering, grinding, or other noise producing devices or operations will not be allowed, unless pre-cleared and pre-arranged.

- Contractor will be required to comply with any restrictions imposed by DOH during the variance hours.
Project Purpose and Need:

Improve safety for motorists, pedestrians, and other roadway uses by adding traffic signals to the currently unsignalized intersection of Kalanianaole Highway and Waa Street.
Kalanianaole Highway Traffic Signal Installation Waa Street

Project Location – WAA STREET INTERSECTION
Project Description

- Installation of 6 new traffic light poles, including:
  - Installation of two traffic signal mast arms along Kalanianaole Highway
  - Installation of new left turn traffic signal (left arrow)
  - Installation of new pedestrian crosswalk signals
  - Installation of traffic detector loops
  - Trenching along median for installation of underground traffic signal interconnect cable

- Pavement restoration and striping.

- Median impact attenuator and guardrail reconstruction.
• Expected start date: February 2020
• Expected end date: January 2021
• Proposed hours:
  • Sunday 8:00 p.m. to Monday 5:00 a.m.
  • Monday 8:00 p.m. to Tuesday 5:00 a.m.
  • Tuesday 8:00 p.m. to Wednesday 5:00 a.m.
  • Wednesday 8:00 p.m. to Thursday 5:00 a.m.
  • Thursday 8:00 p.m. to Friday 5:00 a.m.
• Lane Closures:
  • 1 to 2 through lane in each direction
## 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>Lmax at 50 ft of Transit Noise Source</td>
<td>Rail Transit with a Barrier (50 mph)</td>
<td>Rail Transit (50 mph)</td>
<td>City Bus (50 mph)</td>
</tr>
<tr>
<td>Sound Level dBA</td>
<td>60</td>
<td>70</td>
<td>80</td>
</tr>
<tr>
<td>1/2 as loud</td>
<td>65</td>
<td>75</td>
<td>85</td>
</tr>
<tr>
<td>Baseline</td>
<td>70</td>
<td>80</td>
<td>90</td>
</tr>
<tr>
<td>Twice as loud</td>
<td>75</td>
<td>85</td>
<td></td>
</tr>
<tr>
<td>Four times as loud</td>
<td>80</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: EPA 1971, EPA 1974, FTA 2006
## Equipment List with Noise Levels

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Decibel at 50ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concrete Saw</td>
<td>78</td>
</tr>
<tr>
<td>Auger Drill Rig *</td>
<td>84</td>
</tr>
<tr>
<td>Compactor (ground) *</td>
<td>83</td>
</tr>
<tr>
<td>Concrete Mixer Truck *</td>
<td>79</td>
</tr>
<tr>
<td>Concrete Pump Truck *</td>
<td>81</td>
</tr>
<tr>
<td>Crane *</td>
<td>81</td>
</tr>
<tr>
<td>Drill Rig Truck *</td>
<td>79</td>
</tr>
<tr>
<td>Man Lift *</td>
<td>75</td>
</tr>
<tr>
<td>Vacuum Street Sweeper *</td>
<td>82</td>
</tr>
<tr>
<td>Vibratory Concrete Mixer *</td>
<td>80</td>
</tr>
<tr>
<td>Backhoe</td>
<td>85</td>
</tr>
<tr>
<td>Power Broom</td>
<td>67</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Decibel at 50ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front Loader</td>
<td>79</td>
</tr>
<tr>
<td>Striping Machine</td>
<td>78</td>
</tr>
<tr>
<td>Pickup Truck</td>
<td>75</td>
</tr>
<tr>
<td>Labor Truck</td>
<td>75</td>
</tr>
<tr>
<td>Flatbed Truck</td>
<td>75</td>
</tr>
<tr>
<td>Hauling Truck</td>
<td>78</td>
</tr>
<tr>
<td>Water Truck</td>
<td>75</td>
</tr>
<tr>
<td>Generator</td>
<td>76</td>
</tr>
<tr>
<td>Paver</td>
<td>93</td>
</tr>
<tr>
<td>Steel Drum Roller</td>
<td>90</td>
</tr>
<tr>
<td>Compressor (Air)</td>
<td>81</td>
</tr>
<tr>
<td>Electric Mudgun</td>
<td>85</td>
</tr>
</tbody>
</table>

* Source: Federal Highway Administration Construction Noise Handbook
The Contractor will provide noise monitoring and compliant response services during variance period with a call in number.

For questions or concerns, call Report a Highway Problem at (808) 831-6714 or after hours at (808) 485-6200.

Weekly construction updates are available at: http://hidot.hawaii.gov/highways/roadwork/oahu/.
Title VI of the Civil Rights Act of 1964

- As an obligation to receiving Federal funds, the Department of Transportation gathers data on participants and beneficiaries.

- Public Involvement Data Card is available. Providing this information is completely voluntary and you are not required to provide this data in order to participate in the meeting.
Comments on Noise Variance

Attention: Steven Yoshida
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Kapolei, Hawaii 96707

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More Information

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HDOT Oahu Lane Closures Information can be found at:
http://hidot.Hawaii.gov/highways/roadwork/oahu/
Mahalo!