

Hawaii Department of Transportation

FARRINGTON HIGHWAY INTERSECTION IMPROVEMENTS

Noise Variance Application

Nanaikapono Elementary School

March 4, 2015



Farrington Highway Intersection Improvements

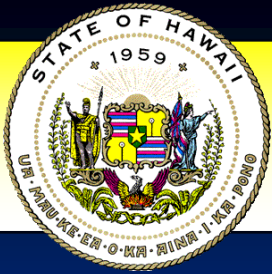
Project Area & Purpose



**Nanakuli High
& Inter. School**

GOALS

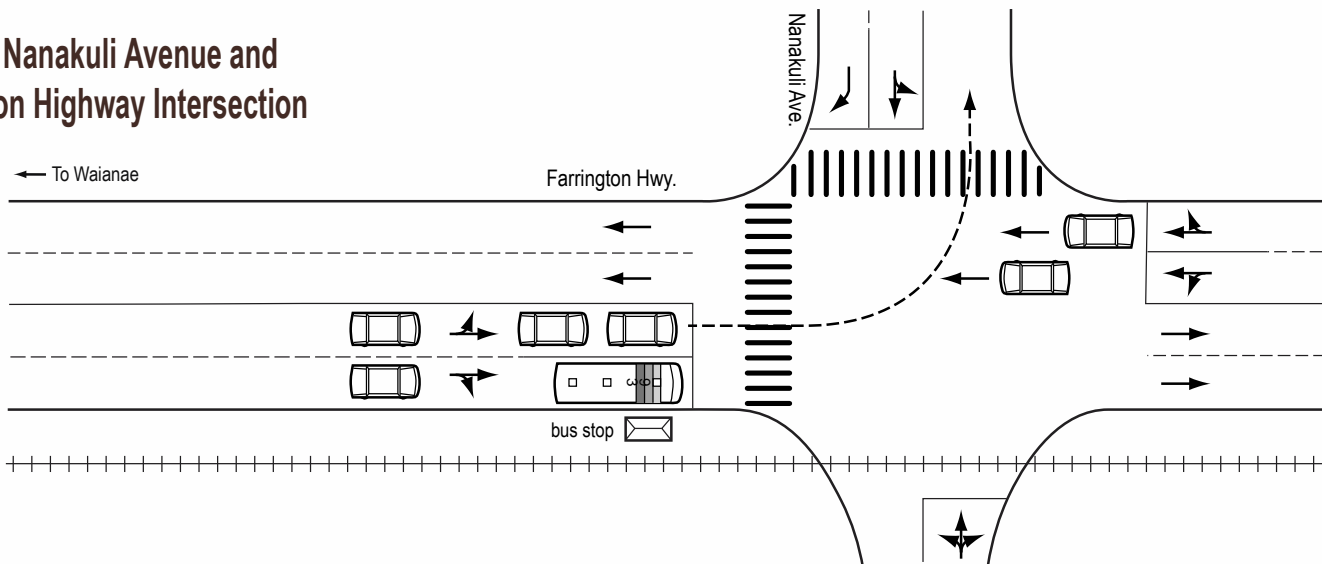
1. Improve safety for drivers, pedestrians and cyclists
2. Reduce congestion through busy Nanakuli corridor



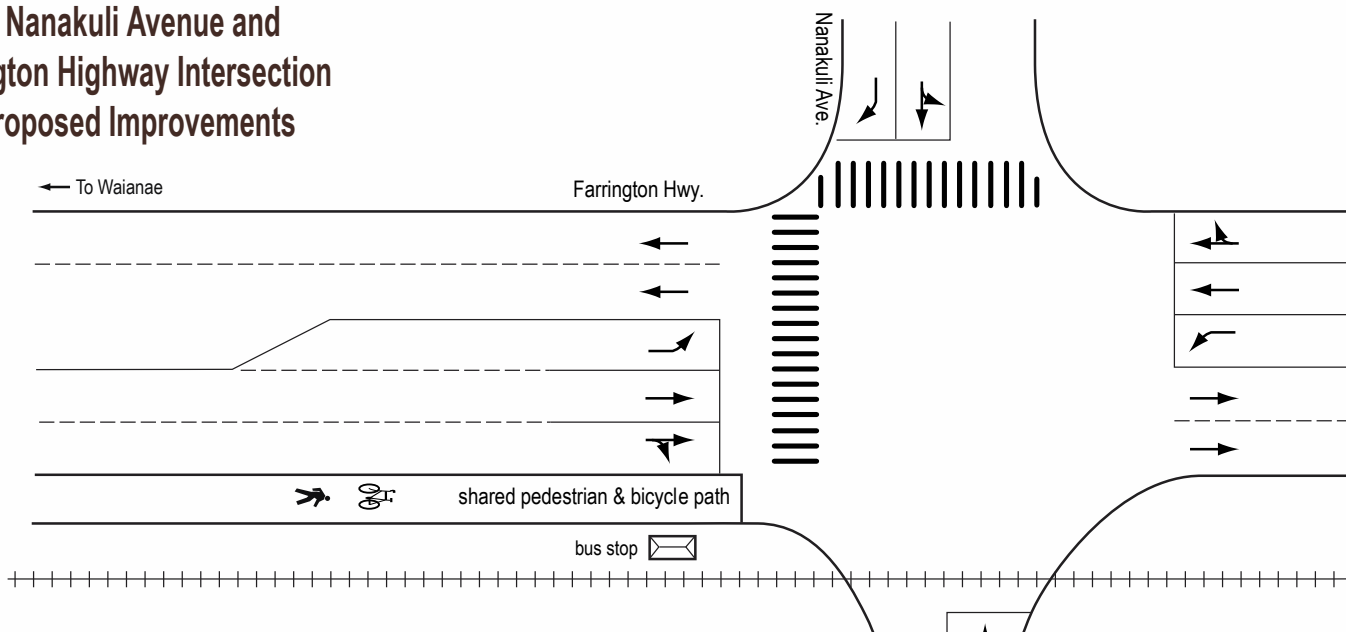
Farrington Highway Intersection Improvements

Nanakuli Ave Intersection

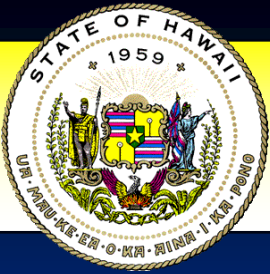
Existing Nanakuli Avenue and
Farrington Highway Intersection



Future Nanakuli Avenue and
Farrington Highway Intersection
with Proposed Improvements



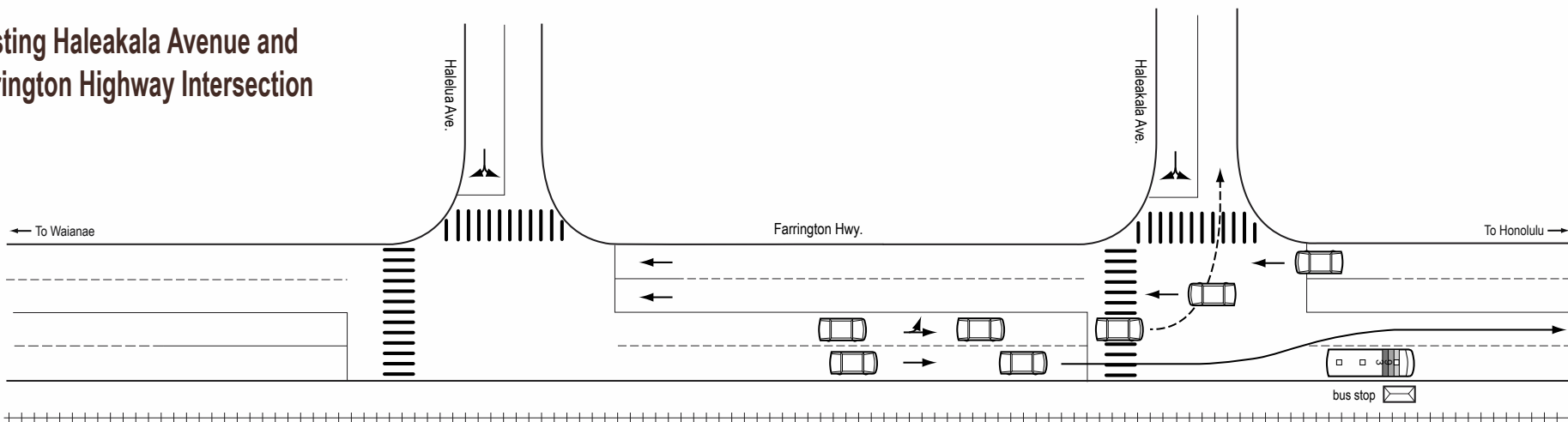
- Auxiliary lane removes left turning traffic from through lanes
- Maximizes traffic flow with 2 through lanes in each direction
- Shared use path improves pedestrian and bicyclist safety and access, with walkway fronting park, school and learning center



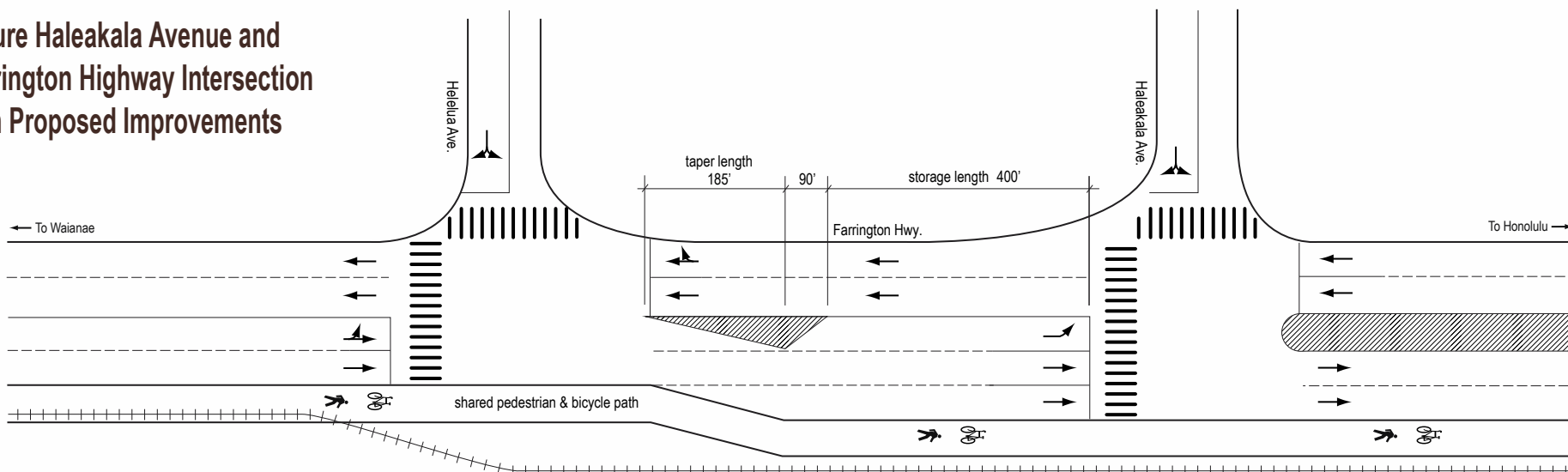
Farrington Highway Intersection Improvements

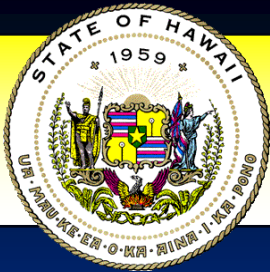
Haleakala Ave Intersection

Existing Haleakala Avenue and
Farrington Highway Intersection



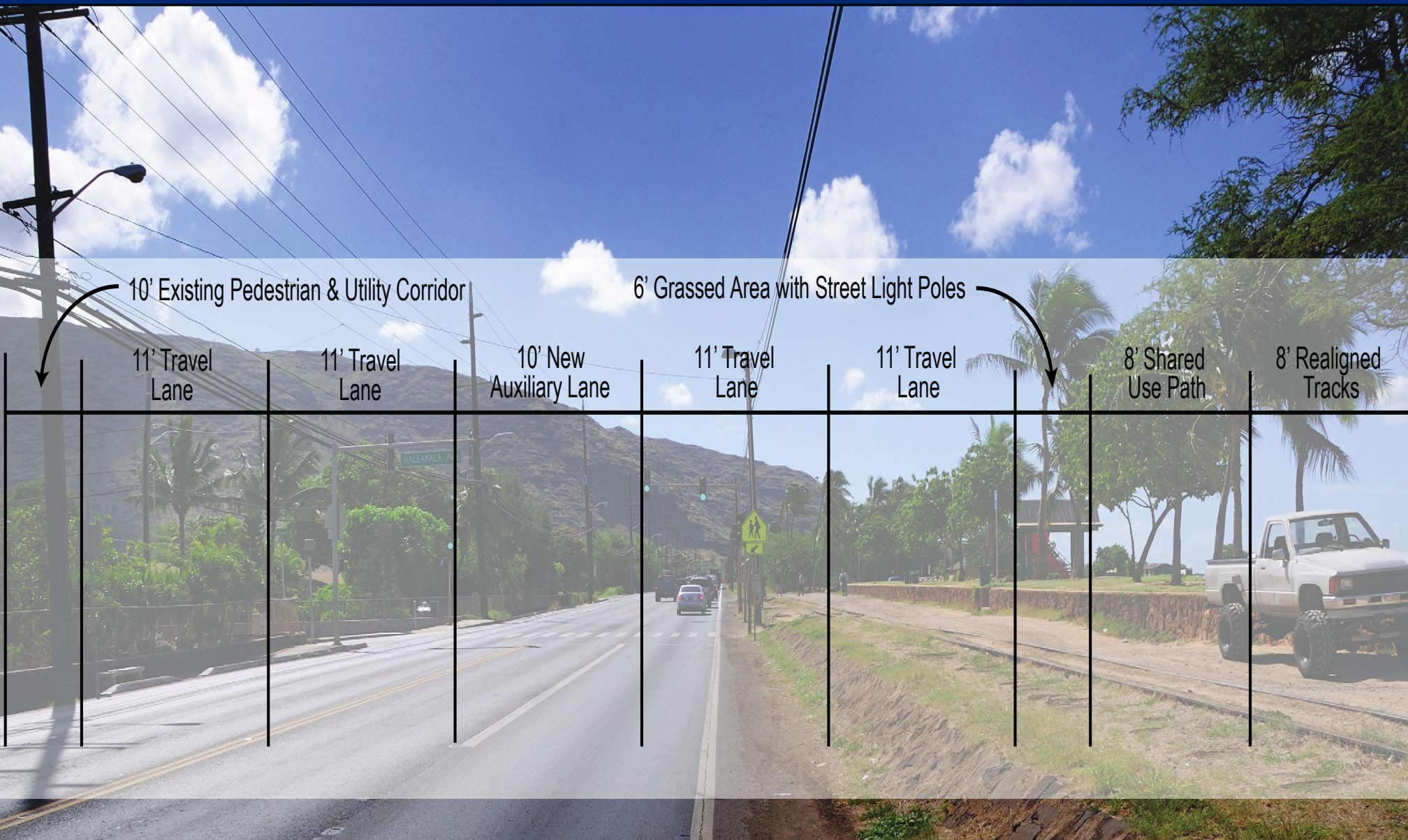
Future Haleakala Avenue and
Farrington Highway Intersection
with Proposed Improvements





Farrington Highway Intersection Improvements

Project Improvements



10' Existing Pedestrian & Utility Corridor

11' Travel Lane

11' Travel Lane

10' New Auxiliary Lane

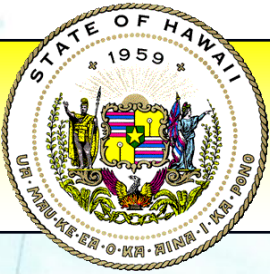
11' Travel Lane

11' Travel Lane

6' Grassed Area with Street Light Poles

8' Shared Use Path

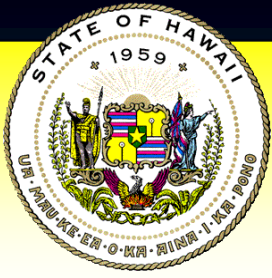
8' Realigned Tracks



Farrington Highway Intersection Improvements

Current Status – thru December 2015

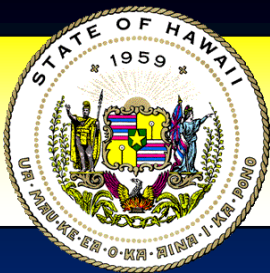
- Day time work
 - Limited lane closures
 - Approximately **1 week of closures during July** to move the concrete barriers from their current location to the Waianae side of the job.
 - Approximately **1 week of closures in December** to remove the barriers from the site entirely.
 - Makai side work 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 Permit Application

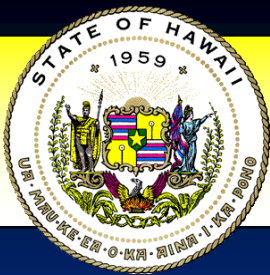
Noise Regulations

- 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”*

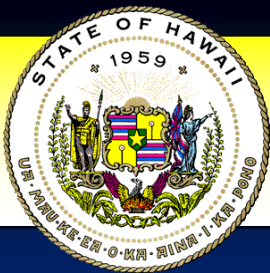
- A Noise Permit Variance must be obtained for any construction activities to occur outside the permissible hours (i.e. after 6 p.m. weekdays).



Noise Permit Application

Proposed Noise Variance

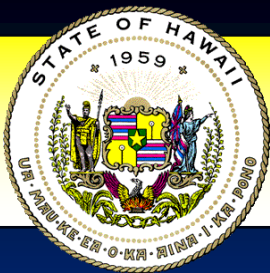
- Variance application requests work be allowed 24 hours, 7 days a week, 365 days a year.
- Activities that do not require Farrington Hwy through lane closures could be conducted at any time, day or night.
- Night work construction duration is estimated at 13 months.



Noise Permit Application

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



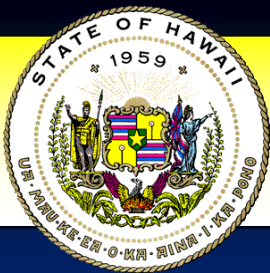
Farrington Highway Intersection Improvements

Noise Permit Application

Typical Sound Levels

Relative Sound Level	½ as loud		Baseline		Twice as loud		Four times as loud	
Typical Sound Environment	Indoor Office		Urban Residential		Urban Commercial			
Lmax of Common Noise Sources		Washing Machine (3 ft)	Auto (50 mph at 50 ft)	Vacuum Cleaner (3 ft)		Garbage Disposal (3 ft)	Delivery Truck (50 mph at 50 ft)	Dump Truck (50 mph at 50 ft) Blender (3 ft)
Sound Level dBA	60	65	70	75	80	85	90	
Lmax at 50 ft of Transit Noise Source			Rail Transit with a Barrier (50 mph)		Rail Transit City Bus (50 mph) (50 mph)			

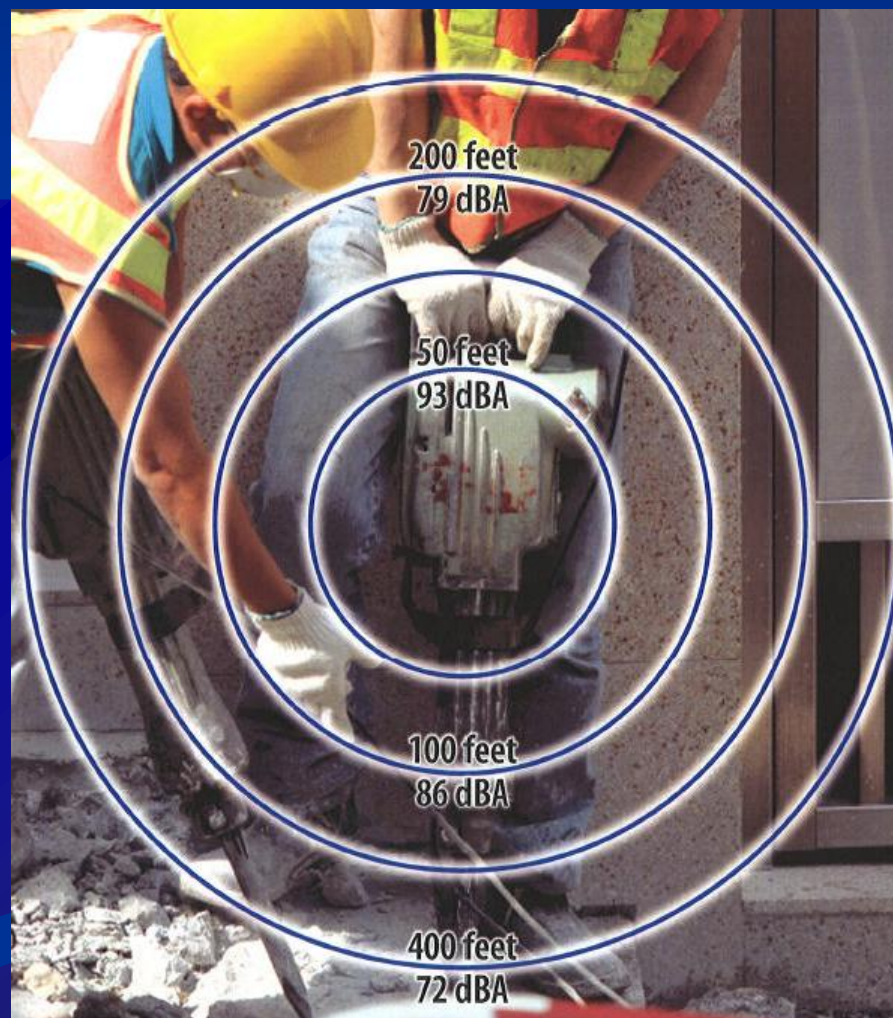
Source: EPA 1971, EPA 1974, FTA 2006

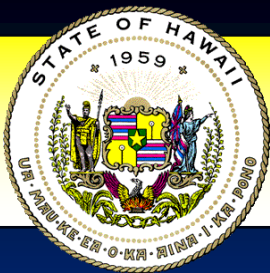


Noise Permit Application

Propagation of Sound

- 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.



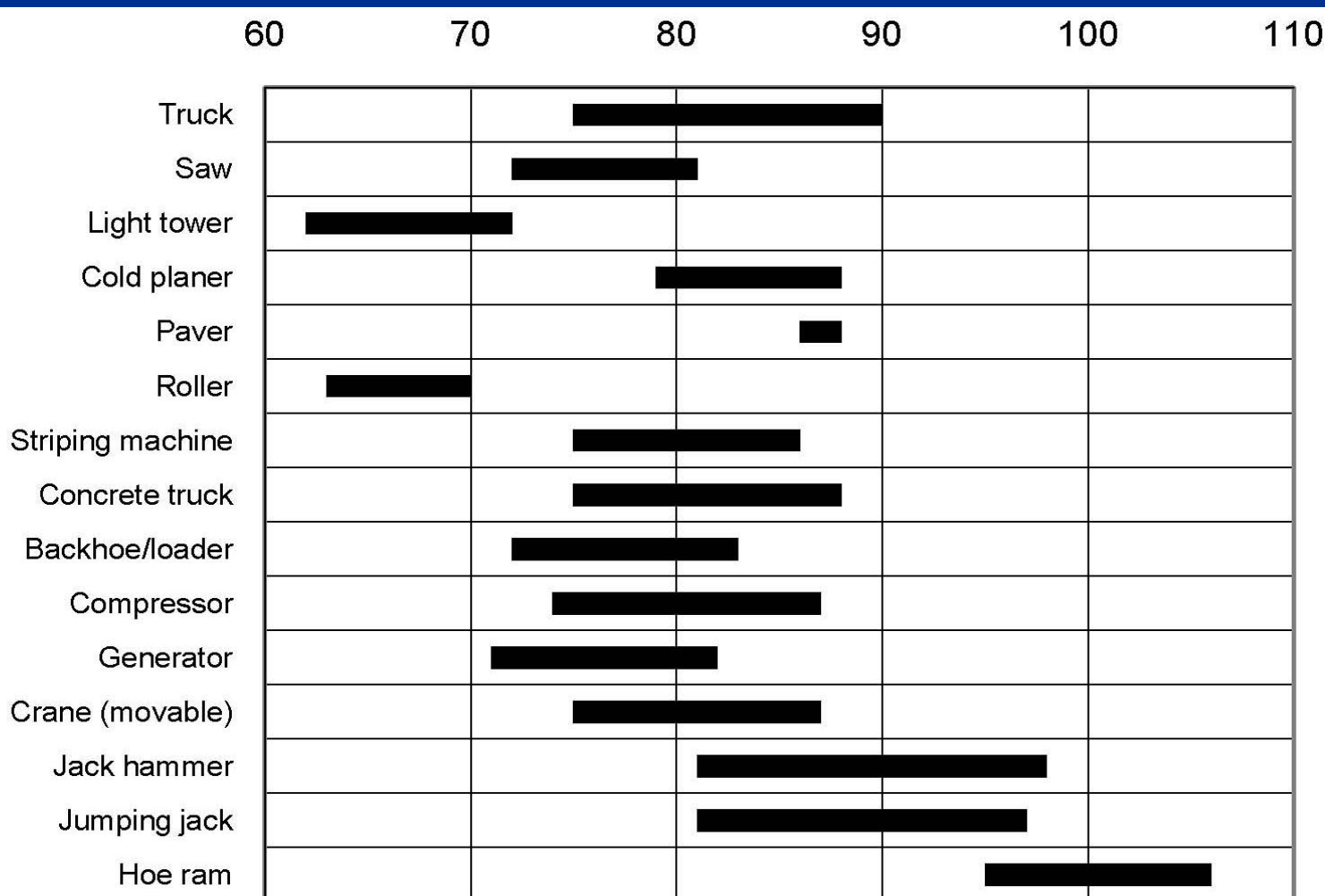


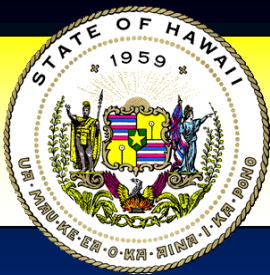
Farrington Highway Intersection Improvements

Noise Permit Application

Construction Equipment

Noise level (dBA) at 50 feet

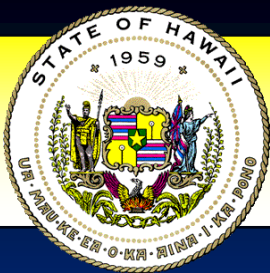




Noise Permit Application

Construction Noise Mitigation

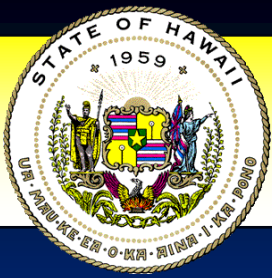
- Use of adequate sound mufflers and intake silencers for construction equipment
- Stage compressors and generators as far from residences as possible
- Perform louder work earlier in the shift where possible



Noise Permit Application

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

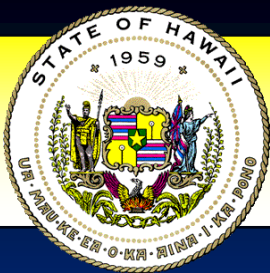


Farrington Highway Intersection Improvements

Noise Permit Application

Locations where the hoe ram may be operated along Farrington Hwy

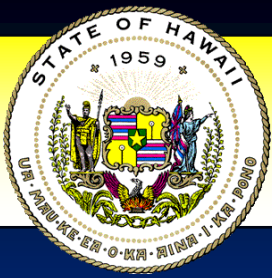




Noise Permit Application

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

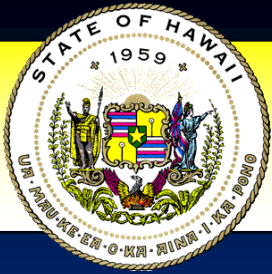


Farrington Highway Intersection Improvements

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





Farrington Highway Intersection Improvements

More Information

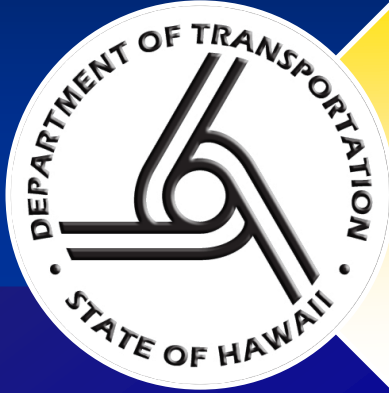
HDOT

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Mahalo

*Thank you for your patience as
HDOT works to improve
our state highways*