

# Noise Abatement

Effective: November 6, 1987

**UDOT 08A2-01**

Revised: February 13, 2014

## Purpose

To establish policy and procedure for the Utah Department of Transportation (Department) for conducting traffic noise studies, implementing noise abatement measures, and coordinating with local municipalities and the public to guaranty that all feasible and reasonable mitigation measures are incorporated into projects to minimize noise impacts and protect the public health and welfare.

## Policy

The Department recognizes a commitment to minimize noise impacts generated by highway traffic that may adversely impact human activity and the quality of life of residents located in the vicinity of heavily traveled roads. The Department will install noise abatement measures according to the guidelines and requirements set forth in the Procedures section of this Policy. This Policy was developed by the Department and approved by the Federal Highway Administration (FHWA). The highway traffic noise prediction requirements, noise analysis, and noise abatement criteria in this Policy are consistent with federal regulation 23 CFR 772 - Procedures for Abatement of Highway Traffic Noise and Construction Noise and Utah Administrative Code R930-3.

## Background

### A. Applicability

1. Type I Project - Noise abatement will be considered for all Type I Projects where noise impacts are identified. A Type I Project is one that includes any of the following:
  - a. The construction of a highway on new location; or a substantial horizontal alteration or substantial vertical alteration of an existing highway; or,
  - b. The addition of a through traffic lane, the addition of a through traffic lane that functions as a High Occupancy Vehicle (HOV) lane, High Occupancy/Toll (HOT) lane, bus lane or climbing lane; or,
  - c. The addition of an auxiliary lane, except for when the auxiliary lane is a turn lane; or,
  - d. The addition or relocation of interchange lanes or ramps added to a quadrant to complete a partial interchange; or,

- e. Restriping existing pavement for the purpose of adding a through-traffic lane or an auxiliary lane; or,
  - f. The addition of a new or substantial alteration of a weigh station, rest stop, ride share lot or toll plaza.
  - g. The entire project area as defined in the environmental document is a Type 1 Project if a project is determined to be a Type 1 Project under this definition.
2. Type II Project - A project referred to as a “retrofit” project to provide noise abatement along an existing highway. The Department does not provide a Type II program.
3. Type III Project – A Type III project is one that does not meet the classification of a Type I or Type II project. Type III projects do not require a noise analysis.

**B. Analysis of Traffic Noise Impacts**

- 1. Noise impact and abatement analyses will include lands within Land Use Activity Categories A, B, C, D and E (Table 1) only when development exists or has been “permitted.” The Department will consider a development as being “permitted” when a formal building permit has been issued prior to the date the final environmental decision document is approved.
- 2. Activity Categories F and G include lands that are not sensitive to traffic noise. There are no impact criteria for these land use types and therefore, an analysis of noise impacts is not required.
- 3. The traffic noise analysis will include the following:
  - a. Identification of existing activities, developed lands, and undeveloped lands for which development is permitted. Refer to Background, paragraph B1.
  - b. Determination of existing and future worst case noise levels. Design noise levels are calculated using the posted speed limit and Level of Service (LOS) C traffic volumes to determine average worst hourly traffic noise, unless there is a compelling reason not to use this LOS.
  - c. Determination of traffic noise impacts.

- d. Identification of land uses and activities that may be affected by construction noise as well as possible mitigation measures.
- e. Examination and evaluation of alternative noise abatement measures for reducing noise impacts.

**Table 1**  
**Noise Abatement Criteria (NAC)**  
**[Hourly A- Weighted Sound Level decibels (dB(A))]**

Activity Category	FHWA Criteria Leq(h)	UDOT Criteria <sup>1</sup> Leq(h)	Evaluation Location	Activity Description
A	57	56	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67	66	Exterior	Residential
C	67	66	Exterior	Active sports areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails and trail crossings.
D	52	51	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72	71	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.
F	-	-		Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing
G	-	-		Undeveloped lands that are not permitted.

1. Hourly A-weighted sound level in decibels reflecting a 1 dBA "approach" value below 23CFR 772 values

4. Primary consideration will be given to exterior areas where frequent human use occurs in determining noise impacts.
5. The Department considers a traffic noise impact to occur when either of the following situations is expected at a sensitive land use:
  - a. The future worst case noise level is equal to or greater than the Department Noise Abatement Criteria (NAC) in Table 1 for each corresponding land use category, or;
  - b. The future worst case noise level is greater than or equal to an increase of 10 dBA over the existing noise level. This impact criterion takes effect regardless of existing noise levels.

**Table 2**  
**Sound Level Change vs. Relative Loudness**

<b>Sound Level Change</b>	<b>Relative Loudness</b>
1 dBA	No perceptible change
3 dBA	Barely perceptible change
5 dBA	Readily perceptible change
10 dBA increase	Perceived as twice as loud

**C. Analysis of Noise Abatement**

The noise analysis will identify traffic noise impacts at sensitive receptors, which will then be considered for noise abatement. The overall goal of abatement is to obtain substantial noise reductions, which may or may not result in noise levels below NAC levels. The two relevant criteria to consider when identifying and evaluating noise abatement measures for mitigation are feasibility and reasonableness. Noise abatement will be provided if it is determined to be both feasible and reasonable.

**1. Feasibility**

The feasibility factors outlined below must collectively be achieved for a noise abatement measure to be considered “feasible.” Failure to meet these factors will result in the noise abatement measure being deemed not feasible and therefore not included in the proposed project. It is important to note that even if all feasibility factors are achieved, noise abatement must still meet all reasonableness factors in order to be included in the project.

- a. **Engineering Considerations** – Engineering considerations such as safety, presence of cross streets, sight distance, access to adjacent properties, barrier height, topography,

drainage, utilities, maintenance access, and maintenance of the abatement measure must be taken into account as part of establishing feasibility. Noise abatement measures are not intended to serve as privacy fences or safety barriers. Abatement measures will be consistent with general American Association of State Highway and Transportation Officials (AASHTO) design principles.

- b. Safety on Urban Non-Access Controlled Roadways -** Wall height will be no greater than the distance from the back of curb to the face of proposed wall to avoid a damaged wall from becoming a safety hazard, in the event of a failure.
- c. Acoustic Feasibility -** Noise abatement must be considered “acoustically feasible.” This is defined as achieving at least a 5 dBA highway traffic noise reduction for at least 75 percent of front-row receptors.

If noise abatement is determined to be feasible, the Department will determine whether noise abatement construction is reasonable by thoroughly considering the criteria described below. The Department Noise Abatement Measure Recommendation Checklist will be completed and a decision on mitigation documented in the project file. Refer to the Appendix in this Policy for this checklist.

## **2. Reasonableness**

The reasonableness factors outlined below must collectively be achieved for a noise abatement measure to be considered “reasonable.” Failure to achieve any of these factors will result in the noise abatement measure being deemed not reasonable and therefore not included in the project.

- a. Noise Abatement Design Goal -** Every reasonable effort should be made to obtain substantial noise reductions. The Department defines the minimum noise reduction (design goal) from proposed abatement measures to be 8 dBA or greater for at least 75 percent of front-row receptors. No abatement measure will be deemed reasonable if the noise abatement design goal cannot be achieved in accordance with 23 CFR 772.

- b. Cost Effectiveness** – The cost of noise abatement measures must be deemed reasonable in order to be included in the project. Noise abatement costs are determined by multiplying a fixed unit cost per square foot by the height and length of the barrier. Allowable costs of abatement are listed in the Procedures section of this Policy. The fixed unit cost is based on the historical average cost of noise barriers installed on Department projects and is reviewed at regular intervals, not to exceed five years.

Cost of abatement is determined by analyzing the cost of barrier that would satisfy the noise reduction design goal for at least 75 percent of front row receptors. The receptor is considered “benefited” if the noise reduction design goal is achieved.

- 1) Activity Categories A, C, D or E (Table 1):** Cost effectiveness is based on the projected cost of abatement that would achieve the noise reduction design goal, compared to the allowable cost listed in the Procedures section. The abatement is deemed reasonable if the anticipated cost per linear foot of noise abatement is less than the allowable linear foot cost.
- 2) Activity Category B (Table 1):** Cost effectiveness is based on the cost of abatement divided by the number of benefited receptors (dwelling units). The abatement is deemed reasonable if the anticipated cost of the noise abatement measure is less than the allowable cost.
- 3) Activity Categories F and G (Table 1):** These land use categories are not sensitive to noise and are not eligible for noise abatement.

**c. Viewpoints of Property Owners and Residents -**  
Viewpoints of property owners and residents (non-owners) must be solicited to determine if noise abatement is desired.

**1) Balloting** –The Department needs to establish whether property owners and residents are in favor of noise abatement measures as part of the final design phase of projects. This process involves sending ballots to the following groups so they can indicate their preference for or against noise abatement measures:

- a) All benefited receptors (property owners and residents). A benefited receptor is one that would receive a reduction of 8 dBA or more as a result of noise abatement.
- b) Receptors that border and are directly adjacent to the end of a proposed noise wall that are not, by definition, benefited by the wall.

The number of votes is established as follows:

- Owner occupied residences: The owner will have 1 vote.
- Rental homes, multi-family residences and apartments: The owner will have 1 vote per unit and the resident (non-owner) will have 1 vote for the unit.
- Day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures: The owner will have 1 vote.
- Commercial/industrial businesses: The owner will have 1 vote per unit and, if applicable, the tenant will have 1 vote for the unit.
- Mobile home parks: The mobile home owner will have 1 vote. The lot owner, if different than the home owner, will have 1 vote.

- 2) **Assessing Ballots** - Property owners' votes will receive a multiplier factor of 5 compared to residents (non-owners) factor of 1 when the votes are counted.

Noise abatement will only be recommended if 75 percent of votes counted, favor noise abatement. The denominator used to calculate this percentage will equal the total number of votes. At least 50 percent of the total number of completed ballots must be returned to adequately assess if noise abatement measures are desired. Noise abatement measures will be deemed not reasonable if less than 50 percent of ballots are returned after balloting efforts are completed.

Ballots sent by U.S. Mail are deemed by the Department as "due diligence" in notifying the affected property owners and residents of possible noise mitigation measures in their area. Ballots will be sent by U.S. Mail to each property owner of record and each residing household/resident. Each ballot will include a deadline for return to the Department. A second ballot will be sent by Registered Mail to those who have not returned a ballot for ballots sent but not returned by the deadline.

There will not be another opportunity to address noise impacts, once a noise wall is deemed to be unfeasible or unreasonable, until such time that another Type 1 project impacts the same area.

3. **Noise Receptor Locations**

Noise receptor locations are normally restricted to exterior areas of frequent human use. Interior locations are only used when there are no outside activities, such as in churches, hospitals, or libraries. Noise receptor locations, typically, are chosen at areas between the right-of-way line and buildings where frequent human activity occurs, such as a patio, pool, or play area in the yard of a home. The selection of the area of frequent human activity will be made in coordination with the Department's Central Environmental Services.

## **D. Noise Abatement Measures**

1. The following abatement measures may be considered including a cost/benefit analyses to compare alternatives if a noise impact is identified:
  - a. Traffic Management Measures such as truck restrictions or reducing speed limits.
  - b. Noise barriers.
  - c. Noise insulation of Activity Category D land use facilities will be considered as a noise abatement measure when determined reasonable and feasible according to 23 CFR 772.13(d).
  - d. Instances may arise in which Department right-of-way is not the most prudent location for noise abatement measures, yet such measures can be feasible and reasonable, if built on adjacent property or adjacent public right-of-way. The following applies in these cases:
    - 1) The Department's cost is limited to the fixed unit cost for abatement on Department right-of-way.
    - 2) Adjacent property owners must allow access and easements as necessary in order to construct and maintain noise abatement measures.
    - 3) Maintenance of noise abatement measures and associated landscaping on the side facing the highway will normally be the Department's responsibility. The opposite face will be maintained by the Department as well, unless maintenance responsibilities are assigned to other parties.
  - e. For projects on Department facilities, the Department will own and maintain all noise abatement measures. The local government will own and maintain all noise abatement measures for local government facilities.
  - f. Noise abatement measures analyzed and deemed feasible and reasonable in the environmental study phase are still subject to final design and balloting.

#### **E. Relocation of Existing Noise Barriers**

There may be circumstances when existing noise barriers must be relocated or replaced due to conflicts with new construction projects, and where the barriers do not meet the Noise Abatement Criteria in this Policy after performing a Noise Abatement Analysis according to paragraph C of the Background of this Policy. Existing barriers will be relocated or replaced in these cases with an “in-kind” barrier so long as the replacement barrier does not:

- reduce roadway safety
- preclude or conflict with planned roadway projects included on either the State Transportation Improvement Plan, or Phase I of the Long Range Plan, or both
- require acquisition of additional right-of-way
- conflict with utilities, or
- result in unreasonable costs to the Department according to this Policy.

#### **F. Local Municipality Cost Participation**

A third party, such as a local municipality, may contribute funds to make functional or aesthetic enhancements to a noise abatement feature in instances where noise abatement has already been deemed feasible and reasonable.

#### **G. Information for Local Officials**

The Department will inform local officials of noise compatible planning concepts and an estimate of future noise levels on undeveloped lands or properties within the project limits for Type I Projects.

#### **H. Projects Funded from Other Sources**

The Department may construct and maintain noise abatement measures along state highway right-of-way in cases where citizens, adjacent property owners, developers, or local municipalities provide the cost for the noise abatement; and the abatement meets the other feasible and reasonable criteria. The Department will design, build, and maintain the abatement measure, and the local municipality acting for and on behalf of other groups will pay the Department for all preliminary engineering, construction and maintenance costs.

## **I. Traffic Noise Prediction**

Only the current FHWA-approved Traffic Noise Model (TNM) is to be used for any traffic noise analysis unless otherwise agreed upon in advance by the Department and FHWA.

### **Definitions**

#### **Approach Criteria**

Within 1 decibel (dBA) of the appropriate FHWA noise abatement criteria.

#### **Auxiliary Lane**

A lane between a highway entrance ramp and an exit ramp.

#### **Benefited Receptor**

A noise-sensitive receptor that is predicted to receive a minimum of 8 dBA of noise reduction as a result of noise abatement. The number of benefited receptors will be used in determining if a noise abatement measure has a reasonable cost.

#### **Decibel**

A descriptor of the difference between sound pressure levels. The A-weighted scale closely approximates the range of frequencies a human ear can hear for traffic noise purposes. The A-weighted decibel is abbreviated dBA.

#### **Design Noise Level**

The noise level calculated for the worst hourly traffic noise conditions likely to occur throughout the life of the project. Level of Service (LOS) C traffic volumes will be used to calculate design noise levels unless there is a compelling reason not to use this LOS.

#### **Existing Noise Levels**

Noise resulting from the natural and mechanical sources and human activity which are considered to be usually present in the particular area.

#### **Front-Row Receptor**

A noise-sensitive receptor that is located adjacent to or nearest to the transportation facility.

#### **Highway**

Public way for purposes of vehicular travel, including the entire area within the right-of-way.

**Impacted Receptor**

A noise-sensitive receptor that is or will be subjected to highway traffic noise that equals or exceeds the noise abatement criteria or exceeds existing noise levels by 10 or more dBA.

**Leq**

Equivalent (average) noise level; reported in units of A-weighted decibels.

**Leq(h)**

The hourly value of Leq.

**Municipality**

A local city, town, or county having its own incorporated government for local affairs.

**Noise Abatement Criteria (NAC)**

The noise decibel value reflecting the approach criteria of 1 dBA below the NAC values listed in 23CFR 772 for each land use category.

**Noise Sensitive Receptor**

Any property where frequent exterior human use occurs and where a lowered noise level would be a benefit. The interior of the building will be used to identify a noise-sensitive receptor in those situations where there are no exterior activities to be affected by the traffic noise.

**Permitted**

The term used when the local agency of authority has issued a formal building permit to developer of a proposed development.

**Property Owner**

The current owner of record at the appropriate County Recorder's Office.

**Receptor**

Recipients of highway generated noise on property supporting activity categories A, B, C, D or E in Table I.

**Sensitive Land Uses**

Residential dwelling units, commercial and industrial sites, or other fixed, developed sites conforming to activity category A, B, C, D or E in Table 1.

**Statewide Transportation Improvement Program (STIP)**

A five-year plan of highway and transit projects for the State of Utah. The STIP is the Department's official work plan for developing projects through design to construction.

**Substantial Horizontal Alteration**

A project that halves the distance between the traffic noise source and the closest receptor, compared between the existing condition and the future build condition.

**Substantial Vertical Alteration**

A project that removes shielding thereby exposes the line-of-sight between the receptor and the traffic noise source by either altering the vertical alignment of the highway or by altering the topography between the highway and the receptor.

**Traffic Noise Model (TNM)**

The latest version of the FHWA Traffic Noise Model computer program used for highway traffic noise prediction and analysis.

**Type I Project**

A project in conjunction with new highway construction or existing highway construction that alters the horizontal or vertical alignment or increases the number of through-traffic lanes.

**Type II Project**

A project commonly referred to as a “retrofit” project to provide noise abatement along an existing highway. This type of noise abatement project is no longer performed by the Department.

**Type III Project**

A project that is not classified as either a Type I or Type II Project.

## Procedures

### Noise Abatement

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**Responsibility:** Region Environmental

### Actions

1. Determine if this is a Type-I Project.
2. Disclose in the environmental document, ending the process with this step if it is not a Type-I Project.
3. Determine types and numbers of sensitive land use activities (receptors) that might be impacted.
4. Disclose in the environmental document, ending the process with this step if none.
5. Measure or calculate existing noise levels.
6. Calculate future worst case noise levels using the posted or planned speed limit and LOS C traffic volumes, unless there is a compelling reason not to use this level of service, to determine average worst hourly traffic noise.
  - a. 23 CFR 772 does not require an analysis of the no build scenario, but it may be valuable if the existing noise levels are greater than the future worst case levels.
7. Compare design noise abatement criterion levels and existing noise levels.
8. Identify impacted receptors.
9. Summarize findings for the environmental document, ending the process with this step if no impacts.
10. Apply a value of **\$30,000 per residence (dwelling unit)** to determine if noise abatement is cost effective for Activity Category B land uses (residential areas).
11. Use a fixed unit cost of \$20.00 per square foot to calculate the cost of noise abatement walls.

12. Apply a value of **\$360.00 per linear foot** to determine if noise abatement is cost effective for Activity Category A, C, D, and E land uses.
13. Consider general abatement strategies, consistent with Department Policy, for all impacted receptors, for each alternative.
14. Identify land uses and activities that may be affected by construction noise as well as possible mitigation measures.
15. Prepare preliminary noise study as outlined in the Department's Environmental Process Manual of Instruction (MOI) and direct its review.
16. Submit noise study to Region Preconstruction Engineer and Central Environmental Services for approval.
17. Include summary of the noise study in the environmental document.

**Responsibility:** Project Manager

18. Direct the local municipality involvement process, providing information where noise abatement is likely and where it is not likely.
19. Inform local officials about noise compatible planning concepts and provide an estimate of future noise levels on undeveloped lands or properties within the project limits.

**Responsibility:** Project Manager and Region Public Involvement Manager

20. Conduct the balloting process – This task should take place during the final design phase of the project. The procedure to determine those in favor of noise abatement will be as follows:
  - a. [Use a standard form posted on the Department's web site](#) that includes, at a minimum, the Department official logo, the project name, project location, the project sponsor, the Consultant's name, a brief explanation of the purpose of the balloting, and boxes to indicate a preference for, or against the abatement. [Refer to the Noise Wall Ballot at the end of this Policy.](#)
  - b. Include a place for written comments on the ballot.
  - c. Include the deadline for votes to **be received** by the Department or Consultant in order to be counted.
  - d. Include a self-addressed stamped envelope for returning the ballot.

- e. Make a reasonable effort to send ballots to the correct address of benefited receptors as defined in this Policy.
- f. Make a reasonable effort prior to balloting by telephone, mailer, or in person to explain the process and to determine any special needs of those voting.
- g. Allow only benefited receptors and receptors that border and are directly adjacent to the end of a proposed noise wall to cast a ballot.
- h. Direct the Region Environmental staff to coordinate with the Central Environmental staff to develop a project-specific voting strategy for balloting situations not described in this Policy.
- i. Place all ballot results in the project files when the ballots for noise abatement are returned.

**Responsibility:** Central Environmental Staff

- 21. Review and approve noise study.

**Responsibility:** Project Manager

- 22. Incorporate the noise study findings into the Project Design Criteria (PDC).
- 23. Submit the PDC to the Region Preconstruction Engineer for approval.
- 24. Incorporate approved abatement measures into design plans and specifications.

# Appendix

## UTAH DEPARTMENT OF TRANSPORTATION NOISE ABATEMENT RECOMMENDATION CHECKLIST

Project Location:  
Project Concept:  
Project Number:  
PIN:  
Prepared By:  
Receptor Name/Description:

### **Determination of Acoustic Feasibility**

Does the noise abatement achieve at least a 5 dBA reduction in highway traffic noise for at least 75 percent of front-row receptors?

Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, proceed to Question #1. If no, abatement measures are not feasible and are not recommended at this site; proceed to decision segment of form.

### **Determination of Feasible and Reasonable Mitigation**

1. Does the design noise level equal or exceed the UDOT Noise Abatement Criteria as defined in Table 1 of this Policy?  
Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, proceed to Question #3. If no, proceed to Question #2.

2. Does the receptor, as a result of the design noise level, substantially exceed (10 or more dBA) the existing noise levels prior to construction?  
Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, proceed to Question #3. If no, then noise abatement is not recommended; proceed to decision segment of form.

3. Can effective noise abatement be constructed which would provide a minimum reduction of 8 dBA for at least 75 percent of front-row receptors?  
Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, proceed to Question #4. If no, abatement measures are not reasonable and are not recommended at this site; proceed to decision segment of form.

4. Are there undeveloped lands along the project corridor?  
Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, proceed to Question #5. If no, proceed to Question #6.

5. Were the undeveloped lands permitted (formal building permit issued) for development under Land Use Categories A, B, C, D or E prior to the date the final environmental decision document was approved?  
Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, proceed to Question #6. If no, implementation of abatement is not reasonable. Noise abatement is the responsibility of the property owner/developer. Proceed to decision segment of form.

6. Can noise abatement measures be constructed without creating a safety hazard to users and residents, and not interfere with operations and maintenance of the highway facility?  
Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, proceed to Question #7. If no, abatement measures are not recommended at this site; proceed to decision segment of form.

7. Does the cost per impacted and benefited residence exceed \$30,000 for residential areas in Land Use Category B or exceed \$360 per linear foot for non-residential areas in Land Use Category A and/or C or commercial and/or industrial zoned areas in Land Use Category E?  
Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, noise abatement measures are not considered reasonable; proceed to decision segment of form. If no, proceed to Question #8.

8. For urban roadways that are not access-controlled, is the noise barrier height less than or equal to the distance from the wall face to the back of curb?  
Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, proceed to Question #9. If no, noise abatement measures are not considered feasible based on safety; proceed to decision section of the form.

9. Does public involvement voting result in at least 50 percent of ballots returned?  
Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, proceed to Question #10. If no, noise abatement measures are not considered reasonable; proceed to decision segment of form.

10. Does the Public Involvement balloting result in at least 75 percent of benefited and end of wall receptors voting in "favor" of the proposed noise abatement measure?

Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, proceed to Question #11. If no, noise abatement measures are not considered reasonable; proceed to decision segment of form.

11. Are there any environmental impacts that need special attention as a result of the implementation of the noise abatement?

Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, outline these impacts and discuss with the Environmental Manager or Region Project Manager.

### **Decision**

Are Abatement Measures feasible?

Yes \_\_\_\_\_ No \_\_\_\_\_

Are Abatement Measures reasonable?

Yes \_\_\_\_\_ No \_\_\_\_\_



# Utah Department of Transportation Noise Wall Ballot

Project Name: \_\_\_\_\_

Project Location: \_\_\_\_\_

Project Sponsor(s): \_\_\_\_\_

Project Contact: \_\_\_\_\_ Telephone: \_\_\_\_\_

### **Ballot Purpose**

Your residence/property has been identified as potentially having highway noise impacts due to the proposed project. As part of the noise study for this project, we would like to get your opinion on whether you would be in favor of noise walls being constructed to reduce expected noise levels.

Your input, along with other information including; the amount of noise reduction achieved, engineering considerations, cost and views will be considered together, to come to a decision on whether or not to construct noise abatement measures. Please check the appropriate line, include any comments you may have and return this ballot in the self-addressed stamped envelope.

Please note that at least 50 percent of ballots sent, must be completed and returned for UDOT to assess if the public desires noise walls. Your ballot needs to be received by \_\_\_\_\_ in order to be counted. Thank you for your participation!

- I **support** a noise wall.
- I **do not support** a noise wall.

### **Comments:**

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Name: \_\_\_\_\_

Address: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_