Jefferson Parkway Advisory Committee (JPAC)
March 15, 2018
Apex Field House
Meeting Summary - FINAL

Attendance: Bini Abbott, Bill Branyon, Vera Ladkow, Britta Nelson, Bill Ray, Brent Smith, Randy Stafford, Jill Straus, Gerry Taylor, Brett Vernon, and Marc Wills

Guest Speakers: Lee Kunselman, Jordan Likes, Karol Miodonski, and Francesca Tordonato,

Facilitation: Heather Bergman and Sam Haas

Peak Facilitation	• Send Jefferson Parkway Advisory Committee (JPAC) members the meeting summary from the September noise study community meeting. • Bring comment cards for members of the public to the next two JPAC meetings.
Bill Ray	• Work with the Jefferson Parkway Public Highway Authority Board and Atkins consultants to determine whether it is feasible to ask Atkins to reconsider certain areas of the sound study to account for the newly-constructed berms, as this information could impact the findings. Also determine if it is within budget and scope for Atkins to disaggregate the noise decibel results for each receiver so that it is clear which receivers have higher thresholds. • Invite a second speaker from Colorado Department of Public Health and Environment (CDPHE) to come to the May JPAC meeting. • Continue to work on adding the requested layers to the map, or create several maps with the different layers. • Add the map displayed during the JPAC meeting to the website.

NOISE STUDY PRESENTATION

Lee Kunselman and Karol Miodonski from Atkins Engineering presented the results from the noise study that Atkins completed for the Jefferson Parkway Public Highway Authority (JPPHA) Board. Atkins Engineering was contracted to examine the interchange design for Highway 72 and the noise analysis pertaining to Leyden Rock and associated neighborhoods. Below are the highlights from their presentation.

- Noise is identified as unwanted or undesirable sound. Traffic noise comes from vehicles (cars, trucks, etc.). There are several sources of noise, including the tire/road interface, engine noise, and exhaust pipes. Sound travels in waves, so the location of the source of the noise matters, because it will impact how the sound travels to the receiver.
- Traffic noise analysis is a federal requirement when federal funds are involved. Atkins used Colorado Department of Transportation's (CDOT) standard practices throughout their analysis of the Jefferson Parkway and used a tool designed by the Federal Highway Administration (FHWA) called the Traffic Noise Model (Version 2.5).
- The first step of the analysis is to evaluate the extent of the project. For the Jefferson Parkway, Atkins considered the alignment (with Indiana on the east and Highway 93 on the west). The noise boundary extends 500 feet beyond the edge of the roadway on each side.
- The second step is to look at all the receivers (e.g., houses, commercial businesses, etc.). There are a few receivers in Candelas. Any lot that is planned or permitted is included in the

study. There are quite a few residential receivers in Leyden Rock. The different receiving points make up the basis of the noise model.

- The third step is to add all current roads, topography, and elevation into the existing conditions model. To verify the existing conditions, Atkins consultants pick a few representative locations to validate the model and count traffic to collect decibel results. The results are then put into the model. Noise monitoring is not done during peak traffic hours, because noise levels are lower in stop-and-go traffic. The goal is to capture the sound levels when traffic is free flowing. Any results that are within three decibels of existing conditions are considered validated. The field readings were taken at locations that would be close to the Jefferson Parkway alignment.
- Once the existing conditions model has been validated, Atkins builds future models for 2020 and 2040 by forecasting traffic volumes. The future model considers the impact of new ramps and uses existing traffic on local roads like Indiana to project growth rates.
- There are different activity thresholds for different types of areas (i.e., residential areas have a different threshold than commercial areas). For residential areas, 66 decibels is the threshold at which conversation can be interrupted. Any noise above 66 decibels is considered an impact. Also, an increase from existing levels of 10 decibels or more is considered an impact.
- Quiet urban daytime is approximately 50 decibels; freeway traffic is approximately 60 decibels; vacuum cleaners are 70 decibels; accelerating motorcycles are 110 decibels. The map shows which receivers were impacted and which were not.
- Examples of sound buffers that have been used in other areas include natural buffers (trees), retaining walls (concrete block walls, Plexiglas walls), or earth berms.

Clarifying Questions
Members of the JPAC asked clarifying questions about the noise analysis. Questions are indicated in italics, followed by the response.

Did Atkins conduct the noise analysis north of 96th Avenue?
Atkins did not extend the study, because there were no receivers north of Highway 128. There are some industrial sites, but those are not included as receivers because JPPHA's commitment was to study the neighborhoods.

How was the study area determined?
The study area was based on the residential areas adjacent to the Jefferson Parkway.

Does sound rise like heat?
Sound travels in waves and moves outward in a sphere shape, like the ripples in water when a stone is dropped. Noise will go wherever it can from the source. For example, if someone were to stand in front of a house (looking at the cars), they would be directly impacted by the noise, but if they were to stand behind the house, the noise would be blocked.

Does Atkins' future model account for the Northwest Parkway?
Yes, the traffic study uses a regional model to project growth and includes the potential distribution of traffic from the new connections.

What were the readings for the existing conditions?
The lowest reading was 39 decibels. There were some readings in the 40-decibel range, and several at 55 decibels. The field readings represent the average noise level at peak travel times (not rush

hour). Measuring at non-peak hours is the standard. Measuring noise levels at 5:00 PM would result in lower noise levels, because the traffic is not free flowing.

What are the inputs to the model, besides topography, traffic flows, etc.?
Elevation, roadways (including a measurement of each lane), barriers (including houses) are all considered. The model can also add walls that act as sound buffers.

When was the sound study conducted?
The sound study was conducted last year, and the traffic projections were for 2020 and 2040.

Would it be possible to show the sound study results for individual receivers?
It would be possible to create a graphic representation of the results, specific to the individual receivers.

Does the model measure the current forms of noise mitigation between the roadway and the homes, such as newly constructed berms?
There are several retaining walls that were included in the model, but the topography that was used in the model was over a decade old and there may be some recently added berms that are not in the model. The model does not represent the berms. Bill Ray will work with the JPPHA Board and Atkins consultants to determine whether it is feasible to ask Atkins to reconsider certain areas of the sound study to account for the newly constructed berms, as this information could impact the findings.

Do sound buffers both reflect noise and prevent noise from traveling beyond them?
Reflectivity is a factor worth considering. Concrete walls have a certain sound absorption level, and there are some guidelines about how much sound should be absorbed. If houses are below the buffer, the noise would reflect above the buffer. The placement of the barrier should either be close to the highway or close to the receiver, not in the middle.

What are the projected sound levels along the Jefferson Parkway alignment for the houses adjacent to the roadway and what mitigation could be done to lessen the impacts of the Jefferson Parkway?
Some of the receivers will be more impacted by sound than others. However, there are very few receivers that are projected to be above the 66-decibel threshold.

How often do consultants validate the model against the results post-development?
There are no requirements to assess and verify the noise levels after the completion of the development.

Does the model account for the sound from use of jake brakes, which are used by trucks during wet conditions?
No, that is not part of the model. The model considers typical conditions with the understanding that rain is not a long-term condition. However, municipalities may consider creating a local ordinance that restricts trucks from braking in certain areas.

Would the JPPHA be open to stipulating a "no brake" zone?
It depends on how JPPHA decides to do enforcement. It is also worth noting that the Jefferson Parkway will likely have less truck use because it is a toll road.

Does the model account for impacts from wind?
It does not, but the field analysis considers wind. The people conducting the analysis use a wind monitor. The threshold for wind is 10 miles per hour (mph). Measurement is not taken if wind is above 10 mph.

Have noise mitigation techniques for the Jefferson Parkway been decided yet?
No, noise mitigation techniques have not been decided. If the JPAC wanted to make recommendations, that is within the group's purview.

WILDLIFE CROSSING AND SAFETY
Francesca Tordonato from CDOT and Jordan Likes from Colorado Parks and Wildlife (CPW) discussed wildlife crossing and safety regarding the Jefferson Parkway. Ms. Tordonato was speaking as a private citizen with relevant expertise, not on behalf of CDOT. Mr. Likes was speaking in professional capacity as CPW representative.

- In the area surrounding the Jefferson Parkway near Rocky Flats, there are several big wildlife species that are commonly sighted. These include elk, mule deer, white-tailed deer, mountain lion (occasionally), and recently there have been more moose sightings.
- Along the southern end of the Jefferson Parkway, the primary concern is deer crossings. There are ways to mitigate crossings, and the options vary depending on how much money is invested. The southern end of the Jefferson Parkway is not as big a concern as the northern portion near Rocky Flats.
- The projected initial traffic volume for the Jefferson Parkway is approximately 10,000 vehicles per day. The area with the highest animal accidents would likely be near Rocky Flats. CPW would like some species to be able to cross and would like others to be prevented from crossing if possible, as there would not be appropriate habitat for them on the other side. CPW would prefer that elk do not make it across Indiana Street to the east side. CPW would like to allow deer and small mammals (coyotes, raccoons, skunks, etc.) to cross. The type of crossing design helps filter the species that cross. For example, elk will use an underpass if it is large enough, and deer will use it if it is smaller.
- CPW's recommendation is to create fencing along the highway with jump-outs (so that animals do not get stuck along the highway). CPW would not recommend an underpass unless it is suitable for deer and small mammals. Overpasses are preferred where the topography is suitable. There are two wildlife-dedicated overpasses in Colorado. They are very expensive to build.
- In some locations where there are projected mobility challenges for smaller mammals, it may be beneficial to open up the drainages. It would be important to consider the drainage patterns and try to provide a crossing appropriate for deer along the stretch of Indiana from Highway 96 up to Highway 128 (roughly 2.5 miles). Best practices indicate that there should be one crossing for every mile of fencing.
- On Highway 93, there are wildlife on the east side and Boulder County Open Space on the west side. Currently, there is no wildlife fencing along the stretch that is most impacted, and CDOT is doing a wildlife connectivity study in conjunction with Boulder County and CPW. When planning and designing crossings, it is important to consider the target species and the roadway template. On I-25, CDOT is planning a series of crossings south of Larkspur where elk is the target species, so the structures will be 14 feet high. For areas where mule deer are the target species, the structure will be smaller (typically a minimum of 10 to 12 feet high and 40 to 50 feet wide).
- Small mammals are not a huge concern, because they typically do not pose a threat to public safety.

- Wildlife mitigation along C-470 was completed in the 1980's, and there are fences with one-way gates. One-way gates are spring-loaded and are often difficult for the animals to push. Animals with antlers often get stuck in the fencing. One-way gates have since been found to be ineffective, especially if the animals have antlers. There is an effort to replace the one-way gates with urban escape ramps and jump-outs with guide rails along C-470. However, jump-outs should not be viewed as a form of mitigation; they are an emergency opportunity for animals to get off the roadway.
- If there is a resource on the other side of the roadway that the animal is desperate to get to, they may use culverts. If there is fencing the entire length of the roadway, the animal will look for an opening. Without an opening, there will typically be a hotspot at the end of the fence. If there is no fencing, animals will cross wherever they want.

Clarifying Questions
Participants asked clarifying questions about wildlife crossings and safety. Questions are indicated in italics, followed by the response.

What happens to the elk if there is no place for them to cross?
If there is no crossing and the fence is maintained, the elk would follow the fence looking for an opening and when they are unable to find one, they will turn back into Rocky Flats and toward Highway 128. That is the desired outcome for elk in this area.

How many mule deer collisions are there in this area?
Jefferson County Road and Bridge has an estimated count.

Do roads like Jefferson Parkway typically have fencing on either side?
The amount of fencing often depends on the location and possible conflicts with wildlife. Standard eight-foot deer barrier fencing precludes most species from crossing, which has safety benefits but also impacts migration patterns. Crossing structures should be considered at intersections that cross key migration or seasonal movement corridors.

Are there any potential migration corridors intersecting with the Jefferson Parkway?
Walnut Creek and Woman Creek may be potential migration corridors, but they are also designated as critical habitat for the Preble's jumping mouse, so any work in that vicinity would require extensive National Environmental Policy Act (NEPA) analysis.

Are there any locations planned for trails or overpasses?
A coalition of local governments has been working together to plan the section of the Greenway Trail that aligns with the Jefferson Parkway. Jefferson County Open Space has taken the lead and is creating a conceptual design for a pedestrian overpass. It is not yet clear what will/will not be permitted on those trails.

Do elk/deer have suitable habitat west of Highway 93?
Elk and deer can survive in an urbanized environment if there is appropriate grass cover. Rocky Flats is the limit of the elk habitat. The elk herd that uses Rocky Flats is comprised of about 150 elk. Antelope need a large track of land to move, and fencing is often detrimental to their movement.

Would a pedestrian overpass or underpass be preferable for reducing unwanted animal crossings?
A pedestrian overpass would be better.

NEXT STEPS

- At the last meeting, JPAC members identified priority topics and permitted Randy Stafford, Bill Ray, and Heather Bergman to plan the agendas for the March, April, and May meetings. In April, Bill Ray will present the traffic and revenue results from the JPPHA board meeting. In May, Randy Stafford and Bill Ray have invited several experts to speak about public health implications related to Rocky Flats.
- The format of the meeting will be as follows: One expert will present, and JPAC members will ask clarifying questions of them; then another expert will present, and JPAC members will ask clarifying questions of them. It will not be a debate, simply an information exchange. There will be some discussion amongst JPAC members, but no discussion between the speakers. There will be one speaker from each end of the spectrum for both issues related to contamination and issues related to health (a total of four speakers). Bill will reach out to another speaker from Colorado Department of Public Health and Environment (possibly Mike Van Dyke) to see if they are available for the May meeting.
- As directed by the JPAC membrs, there will not be public comment during the April and May meetings. JPAC members were chosen to represent the diverse range of community perspectives. Heather Bergman will bring comment cards to the April and May meetings for members of the public to fill out.
- Bill Ray will continue to work on adding the requested layers to the Jefferson Parkway map, or he will create several maps with the different layers. Bill Ray will add the map displayed during the JPAC meeting to the website.