Public Lands Transportation Scholar Final Report

From Plan to Action: Implementing the First National Long Range Transportation Plan of the U.S. Fish and Wildlife Service

May 2017

This document was prepared for the U.S. Fish & Wildlife Service by the Federal Lands Transportation Institute of the Western Transportation Institute.

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AUTHOR

This document was authored by Jacob Connor, Public Lands Transportation Scholar for the Western Transportation Institute stationed at the U.S. Fish & Wildlife Service Headquarters Office.

ACKNOWLEDGMENTS

Working as a Public Lands Transportation Scholar was not only a fun opportunity for me to work on real-world projects that benefit public lands and the American people, it was also an incredible education and professional development opportunity that broadened my understanding of the Federal government and the transportation field. If not for the U.S. Fish and Wildlife Service and the Western Transportation Institute, I would not understand how important it is to preserve our natural resources, treat natural areas with respect, and be a good steward of taxpayers' dollars.

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Also, a special thanks to Phil Shapiro, Jaime Sullivan, and everyone else from the Western Transportation Institute who kept me on track and provided me with resources when the path was not so clear.

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ABBREVIATIONS

DTS	Data Tracking System
EFL	Eastern Federal Lands Highway Division
FAST Act	Fixing America's Surface Transportation Act
FLAP	Federal Lands Access Program
FLH	Federal Lands Highway
FLMA	Federal Land Management Agency
FLTP	Federal Lands Transportation Program
FWS or the Service	The U.S. Fish and Wildlife Service
HQ	Headquarters
LEMIS	Law Enforcement Management Information System
LEO	Law Enforcement Officer
LRTP	Long Range Transportation Plan
NWR Or Refuge	National Wildlife Refuge
PLTS or Scholar	Public Lands Transportation Scholar
PSC	Project Selection Cycle
RIP	Road Inventory Program
RLE	Refuge Law Enforcement
RSA	Road Safety Audits
RTC	Regional Transportation Coordinators
SAMMS	Service Asset Maintenance Management System
SMS	Safety Management System
TIGER	Transportation Investment Generating Economic Recovery Grant
WTI	Western Transportation Institute

ABSTRACT

In 2015, The U.S. Fish and Wildlife Service (FWS or Service) Transportation Program completed writing its National Long Range Transportation Plan (LRTP). Many of the initiatives that the plan called for required additional staff resources at the national level. To meet that need, the FWS Transportation Program sought an Advanced Public Lands Transportation Scholar (PLTS or Scholar) – an individual that had already completed a regular term as a Scholar at a Federal Land Management Agency (FLMA) unit – to work at the FWS Headquarters (HQ) Office.

Since Jacob Connor worked as a Scholar at the San Diego NWR Complex in 2014-15, and therefore knew the FWS Transportation Program well, he was prepared to take on a larger role at the HQ office.

During his assignment, Jacob was tasked with beginning to implement PLAN 2035: The National LRTP. In this report the Scholar describes the national policy and planning step-down initiatives to which he contributed. He also describes some of his site specific projects, especially coordinating with partners and writing applications for discretionary funding.

At the end of the report, the Scholar explains how his work (and the FWS Transportation Program in general) connect to the broader transportation community. Lastly, he describes his experience as a Scholar and how it contributed to his professional development.

INTRODUCTION

The U.S. Fish and Wildlife Service administers more than 150 million acres, 566 National Wildlife Refuges (NWR or Refuge), 70 National Fish Hatcheries, and 38 Wetland Management Districts in all 50 states and several U.S. Territories.

The FWS is guided by a bold mission of "working with others to conserve, protect, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people." Crucial to delivering that mission is providing safe access to FWS lands and facilities for staff and visitors. Without adequate transportation facilities and services, staff could not perform their conservation efforts, and visitors could not reach premier habitat for wildlife dependent recreation.

The FWS Transportation Program has staff in each of its eight regional offices and the HQ office. During the majority of the Scholar's tenure, there were two full time staff at the HQ office and one Regional Transportation Coordinator (RTC) at each regional office. In general, the HQ staff are responsible for national level planning; maintaining Transportation Program databases; coordinating with HQ level staff at the other FLMAs and the Federal Lands Highway (FLH) Division offices; and communicating to Congress the needs and successes of the program. RTCs are responsible for updating inventory and condition assessment data, preparing regional Five Year Plans, and assisting individual stations with grant applications.

PLAN 2035: The Long Range Transportation Plan

In 2012 the Transportation Program began working on a long-range guiding document, the first of its kind for any FLMA. PLAN 2035: The National Long Range Transportation Plan (LRTP) lays out a number of strategies that will ensure that the Service is implementing transportation projects that will have the greatest positive impact.

The LRTP lays out the following six strategic goals areas, each with short-term and long-term actions that will help achieve the goals:

1. Coordinated opportunities,
2. Asset management,
3. Safety,
4. Environment,
5. Access, mobility, and connectivity, and
6. Visitor experience.

For each of the goal areas, the plan also defines several 20-year performance targets, which are based on the current performance levels. See Appendix I for the complete list.

The Scholar's Role

During his assignment, the Scholar was tasked with developing national step-down plans that would help the FWS Transportation Program achieve the performance targets. He worked on a

varied portfolio of projects, and was involved in the daily operations of the FWS Transportation Program. On some projects, he was the primary author/project coordinator. On other projects, especially those contracted out to consultants, he played an advisory or reviewer role. For each project, this report explains the particular role that Scholar took on.

Also, since the nature of the LRTP is long range, many projects will continue in perpetuity beyond the Scholar's tenure. For each of those, a full-time FWS employee has been identified to continue the project.

Reading this Report

The first two sections of this report describe the Scholar's primary and secondary projects. In the last sections of this report, the Scholar explains more about his experience as a Scholar, and how the Scholar position, and the FWS Transportation Program in general, connect to the wider transportation community. Lastly, the Scholar comments on the professional development opportunities provided by the Public Lands Transportation Scholar Program.

PRIMARY PROJECTS

As mentioned, the Scholar was responsible for a variety of projects that worked toward the objectives established in the LRTP. The following three projects were the primary focus of the Scholar's work.

First, the Scholar issued a nationwide data call to every FWS station to establish a comprehensive list of transportation needs. Secondly, the Scholar wrote a report that analyzed crashes on or near stations, and also started a Safety Management System (SMS) to better track crash data. Lastly, the Scholar worked to secure discretionary funding for priority transportation project implementation.

Comprehensive Transportation Needs Assessment

Before the completion of the National LRTP, each of the eight FWS Regional Offices employed a different method for recording the transportation needs of each of their Refuges and Hatcheries. The Service Asset Maintenance Management System (SAMMS) database was used slightly differently in each of the regions. By not maintaining a consistent national database of transportation needs, the transportation program ran the risk of losing project ideas when staff left the Service, and operating inefficiently by focusing on lower priority projects.

Included in the LRTP is a systematic Project Selection Cycle (PSC) that details a process for collecting, storing, and evaluating transportation projects nationwide. Using the LRTP as guidance, Jacob initiated the first round of the PSC.

Methodology

The LRTP includes a description of the seven steps of the PSC, shown in Figure 1 (PLAN 2035, 48-51). The Scholar built a methodology based on those steps, but with slight variations.

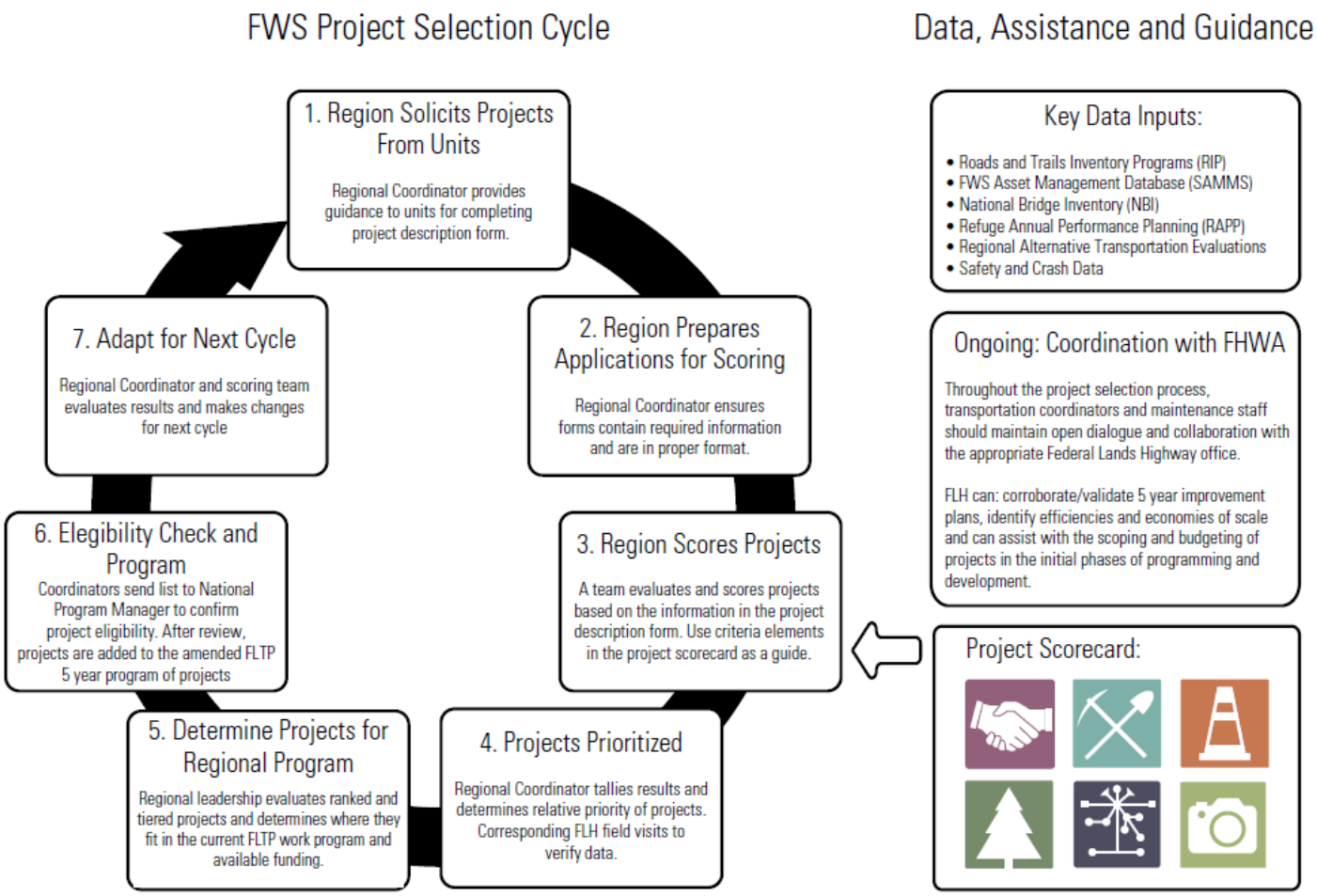


Figure 1 Project Selection Cycle Included in the LRTP

Described below are the fundamental steps of the process the Scholar used (explanation of the step and the person/group responsible). Three major differences from the PSC in the LRTP include: incorporating existing work orders into the final set of transportation needs; automating the process by using a Google Form and Google Sheets instead of a fillable PDF form for project solicitation; and uploading all new projects into SAMMS as work orders.

In order to upload the projects into SAMMS, the Scholar worked closely with the SAMMS database manager to ensure that all of the data fields could be captured in SAMMS and be searchable for future reporting.

1. Pull existing work orders from SAMMS and prepare for scoring

HQ pulls work orders from SAMMS that may be generated from the Road Inventory Program (RIP) or other sources. These are compiled into a spreadsheet for each region. The spreadsheet of existing work orders is sent out as part of the solicitation of projects in step 2.

2. Solicitation of projects

Working with the Chief of the NWR System, and formally passing the process through the FWS Data Tracking System (DTS), HQ instructs RTCs to begin the PCS by sending a project solicitation email to each unit. The email requires units to respond with all transportation needs within 90 days by using the Google Form. The email includes an instructional tutorial, the list of existing work orders for the region, and the Google Form.

For this round and future rounds there was a deadline for proposals to be included for consideration in the Five Year Plan (the list of projects to be funded by the Federal Lands Transportation Program [FLTP]). Submission of project proposals after the deadline will be accepted at the RTC's discretion.

Staff roles are describe below:

- HQ (Jacob): finalize/update the Google Form; create instructional tutorial (Appendix II) for station staff on how to submit a Form and get included in the Cycle; move "solicitation package" through DTS to regional leadership,
- RTC's: coordinate with regional leadership to send out solicitation package to all stations,
- Regional leadership: send out project solicitation email with instructional tutorial, and
- Station staff: submit project proposals before the deadline.

The Google Forms are automatically compiled into a single Google Sheet that will be used for reviewing and scoring projects.

3. Scoring and project scorecard

Ideally, each region establishes a small team to review and score projects from their region. The team uses the project scorecard in the National LRTP (Appendix II), assigning a score in each of the six goal areas. To ensure consistency across regions, headquarters staff is included in all regional teams. Any nuances/differences between the respective regional LRTP and the National LRTP are considered during this step.

4. Ranking and prioritization

The RTC and the regional staff rank projects from highest score to lowest total score (as described in step three). After this initial ranking, regional staff may, based on their knowledge of the region and other factors, reorder projects to create the final prioritization list.

5. Determine regional work program

While the ranked project list will guide project decisions, regional leadership will have the final decision on project selection to meet fiscal constraints. The current five-year plan update will incorporate the selected projects as determined by the regional leadership. The remaining prioritized list will be used by internal and external partners to align with other potential discretionary sources of funding.

6. Eligibility check

The National Coordinator for the Transportation Five Year Plan reviews projects for eligibility.

7. Upload projects into SAMMS

Once the list of projects for each region has been reviewed and scored, the entire list of projects will be entered as work orders into the SAMMS database by HQ staff. From this point forward, all RTCs must update their work orders in the database. SAMMS is searchable so staff can find unfunded projects that closely match discretionary funding opportunities.

8. Adapt as needed

Regional staff evaluate the regional project selection process and revise it as necessary for following selection cycles. This could mean a different team for scoring projects, a different method of scoring, etc.

Constituencies

Generating the comprehensive list of transportation needs and migrating all of the information into the SAMMS database involved many FWS staff from the unit level, regional level, and HQ level, as described above.

Recommendations

While implementing the initial PSC, the Scholar noticed potential improvements for future cycles.

First, due to the similarity of a number of projects, the existing scorecard alone may make differentiation between prioritized and non-prioritized assets difficult. In future iterations of the PSC, the Scholar recommends integrating other selection criteria, beyond the goal areas in the LRTP. Examples include: the Pavement Condition Index score; a cost benefit analysis; road class and tier; etc.

Second, as this was the first time through this process, the data call was issued differently in each region. For example, some RTCs decided to report on projects without issuing a region-wide data call. In order to ensure consistency, and to ensure that all stations are responding with projects, the data call should come from HQ leadership to regional leadership, then ultimately from regional leadership to station staff. This procedure makes everyone accountable for responding to the data call and ensures that all transportation needs will be recorded.

Next Steps / Implementation

The Scholar left his position just as the data call was closing; therefore, FWS completed steps 3-8 without his oversight.

It is anticipated that the FWS Transportation Program will continue this process annually, assessing it and making improvements to ensure efficiency. They will assess the process and make improvements to ensure that it is as efficient as possible, and provides the Transportation

Program staff with the most information possible to make decisions on which projects to implement.

Crash Baseline Report and Crash Data Tracking

Providing safe access to Refuges and Hatcheries is a key component of the LRTP. While the prevention of some crashes may be beyond the control of the FWS, it's imperative that the Transportation Program identify and correct safety issues related to the transportation network.

The LRTP established three safety objectives, each with a 20 year performance target (Table 1).

Table 1 Safety Objectives and Performance Targets from LRTP

Safety Objectives	Current Performance	20 Year Target Performance
1. Complete Road Safety Audits for highly visited Refuges	Baseline established at year 1	5 per year nationally
2. Reduce number of transportation related fatalities that occur on Refuges and Hatcheries	2 fatalities in past 5 years	Zero fatalities
3. Reduce number of wildlife/vehicle collisions	Baseline established at year 1	Zero collisions

In order to achieve these objectives, the Scholar needed to establish a baseline and set up a system to begin tracking crash data across the Service. Where safety hotspots are identified, the FWS Transportation Program can complete Road Safety Audits (RSAs), implement safety interventions, and reduce the number of collisions. Described below is the methodology for and findings of the baseline report. After, the Scholar provides recommendations for how to continue to implement the SMS in the future.

Methodology

The Scholar authored the Crash Data Analysis, 2009-2017 (Appendix III). For the report, the Scholar used data available in the Law Enforcement Management Information System (LEMIS) database to discover trends in crash data across a range of variables.

Dataset

The dataset was pulled from LEMIS on April 4, 2017. The dataset includes all incidents (incidents is the term used for entries in the database; not all incidents are crashes) dating back to 10/27/2009 (the date of the first incident reported that met our search criteria).

The database query pulled all incidents that include the word "accident" (the term used for "crash" in the LEMIS database) in the "Regulation" or "Statute" fields. The query returned incidents related to:

- Accident, Boat/Vessel,
- Accident, Other Vehicle,
- Accident, Traffic,
- Unauthorized moving of a vehicle involved in an accident on a National Wildlife Refuge, and
- Failure to report accidents.

The original dataset included 1,464 incidents. One-hundred nineteen were removed because they did not relate to a crash or were duplicates (duplicates occurred when multiple vehicles in a crash resulted in multiple incidents reported). The remaining, unique 1,343 incidents were used for the analysis.

Limitations/Assumptions

Most stations do not have Refuge Law Enforcement Officers (LEOs) on site 24/7. Many, if not most, stations receive sporadic visits and therefore depend on other agencies for law enforcement emergencies. Furthermore, LEOs are not trained to investigate crashes, so they usually wait for municipal, county, or state law enforcement to perform the investigation. Refuge Law Enforcement policy does not require LEOs to report crashes in LEMIS. It is therefore safe to presume that there are more crashes occurring on or near FWS managed lands that are not being recorded in LEMIS.

Due to inconsistencies in reporting and area or regional differences in LEO staffing, it may be that one area or region is showing more crashes simply because there are more LEOs available to respond and record incidents in LEMIS.

An additional limitation is that the data used in this report was not normalized using any additional factors. To accurately compare the data over time, the following normalizing factors would be of benefit:

- Population growth,
- Change in annual average daily traffic,
- Number of Refuge LEOs at a station, area, or region,
- Change in acreage of Service managed lands, and
- Change in lane miles.

By normalizing the data to any of these factors, the Service would better be able to identify the causes of changes in trends.

For this report, only the date, regulation, region, station, and latitude/longitude (for a portion of incidents) were analyzed. In future years, the Transportation Program will be able to follow trends based on all of the new fields being recorded (Appendix III).

Findings

As mentioned, the results are skewed by the number of Refuge LEOs available in a given area, as well as their propensity to report crash data given that reporting is not mandatory. The data

shows a general increase in crashes reported over the time, with many regions peaking in 2014, and declining thereafter. Regions 2, 4 and 5 have the highest number of reported crashes from 2014 to 2016 (Figure 2).

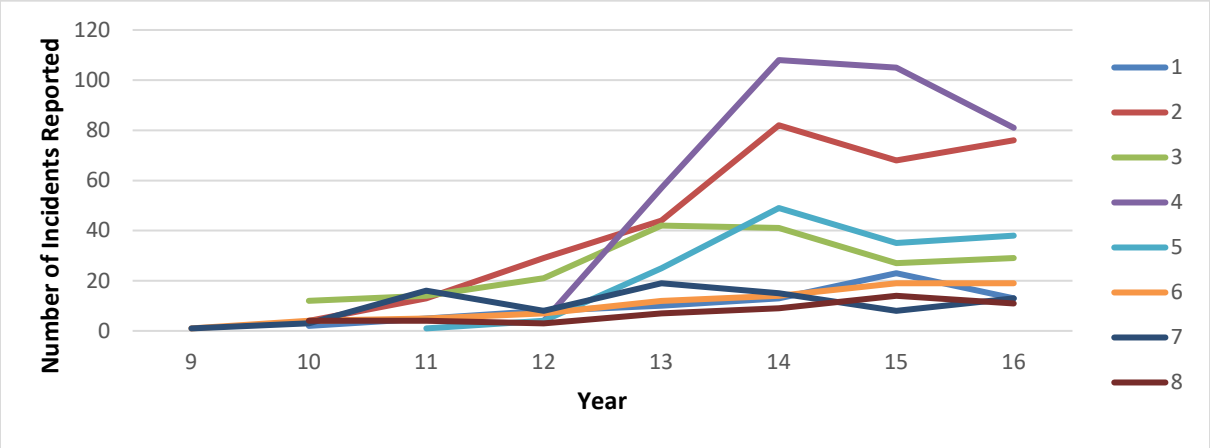


Figure 2 Number of Incidents by Region by Year, 2009-2016

Figure 3 shows that the largest category of incident type was traffic incidents, with 840 over the 7 year period.[1][2]

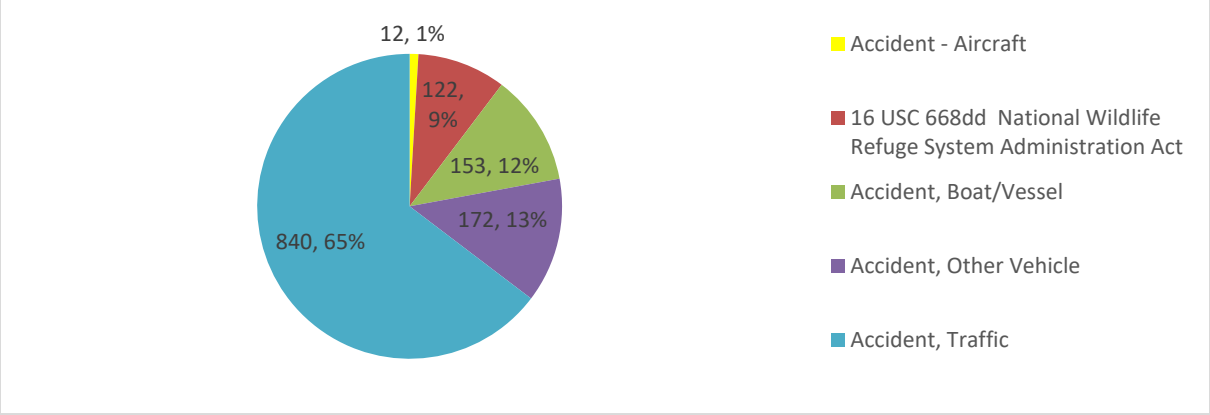


Figure 3 Number and Percentage of Incidents by Regulation Type, 2009-2016

Over the 7 year period, the 10 stations reporting the largest number of crashes include:

1. Merritt Island NWR, FL (119),
2. Buenos Aires NWR, AZ (92),

[1] "Accident, Other Vehicle" may refer to crashes involving bicycles, snowmobiles, ATVs, etc.
[2] "16 USC 668dd" addresses the following permitted and prohibited uses of refuge lands: hunting and fishing violations, trespassing in closed areas, easement violations, etc.

3. Wichita Mountains Wildlife Refuge, OK (90),
4. Kenai NWR, HI (79),
5. Crab Orchard NWR, IL (70),
6. Chincoteague NWR, VA (37),
7. J N Ding Darling NWR, FL (18),
8. Arizona - Other (South) (17),
9. DeSoto NWR, IA & NE (17), and
10. Havasu NWR, AZ & CA (16).

See Appendix III for more results on data grouped by region, year, and other ways.

Constituencies

Implementation of the SMS requires a great deal of coordination among different FWS staff. At the station level, Refuge LEOs (and/or any other Refuge staff) must record crash data into LEMIS. LEMIS contractors working for the FWS pull the data and provide reports to the Transportation Program. Transportation staff at HQ compile the data and write a report identifying the safety issues across the Service. Then, RTCs interpret the analysis and work with station staff to implement interventions on-site.

Recommendations

The baseline report is high-level in nature and therefore did not identify site specific safety hotspots. It did not draw any conclusions in terms of causation nor did it provide recommendations on how to address the safety concerns. With this report, RTCs simply see which of their stations have the highest number of crashes, which they can then begin to investigate more closely.

The FWS Transportation Program should find a way to ensure that crash data is collected from all stations. Because there are not LEOs at each station, data may be skewed to show more crashes at stations that have a larger LEO presence.

Next Steps / Implementation

The Scholar, working with a Safety Engineer at EFL, as well as Refuge Law Enforcement staff, established a set of data fields for Law Enforcement to collect on every crash (Appendix III). Collecting this information will provide the Transportation Program with a consistent way of tracking crashes across the country. Each field indicates a potential cause for accidents, allowing identification of safety hotspots and enabling the consideration of solutions to address the specific safety issues identified.

Discretionary Funding

Funding for the FWS public-use transportation network comes from Federal Lands Transportation Program (FLTP) base allocations ($30 million authorized in national transportation policy, currently Fixing America's Surface Transportation Act [the FAST Act]),

from the Service's base appropriation, or from supplemental sources like grants and non-governmental partnerships.

FLTP base funds are sub-allocated to the individual regions based on a formula that was established in the early days of the FLTP. Because the needs of the program far outweigh the funds available through FLTP base allocations, the program must actively seek supplemental funds.

To that end, the Scholar was tasked with assisting the RTCs to secure discretionary funding for top priority projects. During his time with the Service, Jacob worked on approximately 30 Federal Lands Access Program (FLAP) applications and one Transportation Investment Generating Economic Recovery (TIGER) grant.

Methodology

Because the Service is a Federal agency, and therefore not an eligible applicant for most discretionary funding sources, it is crucial that the Transportation Program find eligible partners to apply for grants that benefit the public access to stations. The FLAP program, administered by the Federal Lands Highway Division Offices on a state by state basis, is usually the best opportunity (or only option) for funding transportation projects that provide access to Refuges and Hatcheries. The program funds projects that are on, adjacent to, or provide access to any FLMA unit; however, only state and local governmental agencies are eligible applicants.

To best compete for FLAP funding, the Scholar established a method of collecting project ideas, garnering support from eligible applicants, and completing/reviewing applications before submitting them. During his tenure, Jacob worked on calls for projects for approximately 20 states. Described below are the fundamental steps of this process he underwent for each state, followed by two examples of projects that he worked on.

1. Collect Project Ideas

Several weeks before a state's call for projects opened, the Scholar first read any applications that were previously submitted by the FWS for that state. Next the Scholar called each Refuge Manager within the state to inform him or her of the call for projects -- starting with the stations with the highest visitation. During the conversation, Jacob took notes on top priority transportation needs, and identified potential applicants. He then followed up on each call with an email containing more information on the program.

After collecting a list of potential projects, Jacob and the RTC prioritized projects by state and identified which were most likely to be funded through the FLAP program. On average there are approximately 10 Refuges per state (although the number of Refuges varies greatly by state), and about one-quarter to one-half of those showed interest in submitting a project.

2. Garner Support from Eligible Applicants

Once Jacob and the RTC identified the highest priority projects, Jacob and/or station staff would reach out to potential applicants in the state or local government to inform them of the FLAP program, and ask if they would be interested in applying. Each case was unique – in some

cases, the applicants were enthused by the opportunity and took it upon themselves to carry out the application process as well as provide the required funding match. In other cases, applicants were supportive of the idea, but did not have the resources to commit either to complete the application or provide the funding match. In other cases, the potential applicant was simply not interested in applying.

3. Complete/Review Applications

Once interested applicants were identified, the Scholar worked with station staff, applicant agencies, and RTCs to develop applications. Some agencies completed the applications independently and then sent them to Jacob to review.

For those who needed more help, Jacob would write as much of the application as possible -- seeking contributions from station staff and the applicant when necessary -- then send the application to the station and the applicant for review. For some of these projects, the Scholar had to seek ways of finding the match contribution. Since the match can come from any source other than Title 23 (FLTP funds excluded), sometimes multiple municipalities, counties, non-profits (such as friends groups), and the FWS would each contribute some of the match. In some cases, even toll credits were used as a match.

Once everyone agreed to the content in the application, the applying agency would submit the application to the corresponding FLH Division Office.

In addition to his role developing applications as described above, Jacob also worked with the FLH Offices after calls for projects were closed. For many of the FLAP projects benefitting the FWS, Jacob continued to be involved by answering any follow up questions the FLH Division Program Decision Committee had regarding the projects.

Case Study – TIGER Grant

One of the larger grants Jacob wrote was the TIGER Grant for Chincoteague NWR titled “Multi-Modal Beach Access: A Project to Support and Sustain the Local Tourism-based Economy, Chincoteague, VA.”

The TIGER program is administered by the Office of the Secretary of the U.S. DOT. Grants are awarded on a competitive basis for capital investments in surface transportation infrastructure that have a significant impact on the nation, a metropolitan area, or a region. The call for projects was issued in February, 2016, and was due April 29, 2016. For more general information on the program, see the website (https://www.transportation.gov/tiger).

The Service chose this project due to the economic emphasis it would sustain for the rural community in which the Refuge is located. Although it was not awarded funding, by going through the application process, the Service was able to make connections with the community that may help gain momentum in finding project funding. For a one-page project description and the full application, see Appendix IV.

Case Study – Federal Lands Access Program

One of the successful FLAP applications to which Jacob contributed was the Farmer's Bridge Rehabilitation project, providing access to the Cibola NWR, AZ.

Prior to this project, the RTC in Region 2 asked Jacob to reach out to stations to determine if there were transportation needs that would fit the FLAP program. When Jacob called the Refuge Manager at Cibola NWR, he mentioned that La Paz County had been trying to find funding to repair Farmer's Bridge, which is the only paved access to the Refuge. The bridge is owned and maintained by La Paz County, which makes it eligible for the FLAP program.

It is estimated that 48,500 annual visitors use the bridge as primary access to federal recreation areas, along with 200 residents. For both residents and visitors, the bridge provides a critical connection for emergency services as well as general access to the area. The bridge is structurally deficient for the level of traffic it carries and lacks basic safety features for a safe river crossing.

The county already completed preliminary engineering for the project, but needs the funds for construction. The proposal included:

- Installation of new concrete approach slabs at each end of the bridge,
- Removal of concrete from behind existing abutments,
- Modification of abutment type to cap and beam,
- Reparation of wingwall footings,
- Replacement of removable span 3 with new span section,
- Removal of existing pipe, grating and steel components on span three,
- Installation of new removable concrete deck system on span three, and
- Replacement of existing safety rail with new rail-post type barrier.

The total project was estimated at $927,449, and the county was able to supply the required $52,864 match.

Jacob reached out to the county and provided all of the information regarding the FLAP program. He scheduled meetings between all of the relevant parties to make sure everyone was on the same page. Jacob and the county staff prepared the application together. Jacob also reached out to partner agencies, providing text for letters of support. See Appendix V for the full application.

The project was awarded funding and is tentatively scheduled for delivery in 2018.

Constituencies

Coordinating grants from the HQ level required much coordination among many entities. Jacob worked with RTCs in many regions, as well as transportation staff at the HQ office. He also worked with numerous municipal, county, state, and non-profit employees.

Recommendations

One objective Jacob was not able to fully realize was uploading all grant applications into the searchable SAMMS database. Uploads into the database should include information on whether the project was funded or not and why. Currently, each RTC is responsible for tracking progress on grants that benefit their Refuges, but there is no standard operating procedure regarding how grant applications are saved Service-wide.

While in the position, Jacob requested all FLAP and Transit in Parks applications from each of the three FLH Division Offices, as well as the RTCs. Jacob put all of the applications he could gather on a shared drive at the HQ office. Looking ahead, the Transportation Program should upload previous and future grants into SAMMS so that anyone can find previously written applications.

Next Steps / Implementation

During his tenure, Jacob worked on approximately 30 grant applications that were submitted. Many states had not issued awards before Jacob left the Service. In the states that had announced grant recipients, the FWS received funding for approximately half of the applications submitted.

In February 2017, the Transportation Program hired a new staff member, Nathan Beauchamp, who will focus primarily on applying for discretionary funding. Jacob shared with Nathan the work he had done regarding the TIGER and the FLAP programs. There were no applications left unfinished, but Nathan had already begun to prepare project ideas for the upcoming FLAP calls for projects.

The recently closed data call for the Comprehensive Transportation Needs Assessment (described in a previous section) is an opportunity for the Transportation Program to review all transportation needs, research funding opportunities that best match high priority projects, and leverage available grant opportunities where they exist.

SECONDARY PROJECTS

In addition to beginning to implement elements of the LRTP, the Scholar also worked on other projects that supported the Transportation Program.

Updates to the National Long Range Transportation Plan and the Roadway Design Guidelines

Although the LRTP was completed in 2015, it had not been signed by the Director of the Service. At the beginning of his term, the Scholar had the opportunity to update the language regarding the passing of the FAST Act in December of 2015, and move through the process of having the LRTP signed by the Director.

Additionally, Jacob was able to work with the Service's National Archeologist in order to include an additional guideline, Planning Context-6 Consider Cultural and Historic Resources, in the LRTP's Roadway Design Guidelines. After completing the guideline, and making some other minor updates to the document, the Scholar worked with the printing department to have it professionally printed and distributed to partners of the Service's Transportation Program.

Created briefing materials for FWS Leadership, DOI, and Congress

Throughout the year, the Scholar prepared briefing materials and presentations for a variety of meetings with upper level management in the Service, as well as other staff in the DOI, Congress, and the Office of Management and Budget of the Executive Branch. Some examples include:

1. A briefing of the completed LRTP for the Chief and Deputy Chief of the NWR System,
2. A presentation on the delivery of the Service's Transportation Program to the Associate Administrator for Federal Lands in the Federal Highway Administration, and
3. Presentation materials for a briefing on the Service's Transportation Program with staff from the Office of Management and Budget.

FY 16-20 Transportation Program Investment Strategy

The Transportation Program was tasked by FLH to complete a Five-Year Investment Strategy to align with the five-year funding of the FLTP in the FAST Act. Jacob was the primary author of the document, completing it in September, 2016. Based on the LRTP, the Investment Strategy defines the transportation system eligible for FLTP funding. It also documents the existing conditions of the transportation systems within the National Wildlife Refuge and Fish Hatchery Systems, including roads, trails, and bridges. Lastly, the Investment Strategy addresses how the FWS Transportation Program is making progress toward the Secretary of the Interior's performance goals, the LRTP's goals, and the FWS's broader goals. The recently completed Comprehensive Transportation Needs Assessment will feed into future updates of the Investment Strategy. Please see Appendix VI for more details on the Investment Strategy.

Urban Transportation Connections Study

In addition to its premier task of conserving wildlife and habitats for future generations, the Service also manages six wildlife-dependent recreational uses: hunting, fishing, wildlife observation, photography, environmental education, and interpretation.

In urban areas, opportunities for individuals to connect with nature are often limited. Even where NWRs exist in or near urban settings, too often, the ability of citizens to access them is constrained by inadequate transportation options and/or physical or financial challenges. These barriers must be reduced if the FWS is to be relevant to urban communities. To address these challenges, the Service launched the Urban Transportation Connections Study (UTCS).

The study is being completed by the consulting firm Kimley-Horn and Associates. During his tenure, Jacob was one of the core team members representing the FWS HQ Transportation Program. He helped guide the direction of the study, participated in site visits, and reviewed draft deliverables from the consultants.

Deliverables from the UTCS will include Access Plans for seven individual NWRs, a strategy for reducing transportation barriers across all 101 urban NWRs, and a template for a data-driven tool that can be used by the Service to plan and prioritize transportation projects across all NWRs.

Before Jacob left the FWS, the team had completed three site visits: Detroit River NWR, Bayou Sauvage NWR, and Santa Ana NWR. While each NWR was unique, they shared very similar challenges: lack of transit access (particularly last mile connections), structural barriers (including highways and fences), poor non-motorized trail connectivity, lack of adequate signage, and lack of marketing to local communities.

During site visits, the core team and invited stakeholders proposed solutions to address these specific issues. The team will continue to develop the Access Plans and the other deliverables. Once complete, all recommended projects will be entered into SAMMS, under the process described for the Comprehensive Transportation Needs Assessment.

Wildlife Vehicle Collision App

In partnership with the National Park Service (NPS) and the Forest Service (FS), the FWS contracted the WTI to create a method of collecting, storing, and analyzing wildlife vehicle collisions (WVC) on or near FLMA units. The proposal was born out of the LRTP as an initiative to improve safety for people and animals. By collecting the data, it is intended that FLMAs will identify hotspots where wildlife-vehicle collisions are occurring, and implement interventions that will reduce their number.

The project will be completed in three phases:

1. Scope of work and development of mobile app to collect data,
2. Pilot data collection at select units, and
3. Launch data collection across the Service.

During his tenure, Jacob worked on the first phase. In it, the team refined the scope of the project, decided on the platform for the app (Esri Survey123), and the data fields to be collected. Because each station has varying levels of staff available for data collection, the team ultimately decided that the app would be developed so that it could be used by staff (experts) as well as citizen scientists (non-experts).

It is planned that the app will be developed in a way that allows for data collection on an opportunistic basis, recording evidence of collisions randomly observed, as well as by regularly scheduled scientific surveys that record WVC within a designated area. This distinction would allow for those stations with enough staff, and a higher profile WVC issue, to benefit from analyses of data collected through scientific surveys.

The project was entering phase two as Jacob completed his term with the Service. The Transportation Program was identifying two pilot stations while WTI staff created the app. See Appendix VII for more details on the project.

Road Safety Audits

A road safety audit (RSA) is a formal safety performance examination of an existing or future road or intersection by an independent audit team. RSAs help to promote road safety by: identifying safety issues at the design and implementation stages; promoting awareness of safe design practices; integrating multimodal safety concerns; and considering human factors in the design. RSAs are also an effective supporting document used when applying for discretionary funding.

With the intent of better understanding the transportation safety risks on public lands within the Service, the Transportation Program set a performance target of completing five RSAs annually. When Jacob started, the Transportation Program Manager had already contracted Eastern Federal Lands Highway Division (EFL) to perform a preliminary assessment of safety across Refuge and Hatchery Systems to determine which locations would benefit most from an RSA. Together, EFL and the Transportation Program chose five locations for FY 2016.

Jacob attended the first RSA of this round at Great Meadows NWR. EFL set up the meeting with Massachusetts DOT, the Towns of Concord and Sudbury, and the staff of the Refuge. Refuge staff selected three locations for the team to visit. At each location, the team identified safety issues and discussed potential solutions. On the second day, EFL summarized their findings and the group discussed in further detail how interventions might be implemented. As with most Service transportation projects, partnerships with local municipalities, counties, and/or DOTs are crucial. Meetings such as the ones at Great Meadows are instrumental in getting everyone around the same table.

With input from the meeting and incorporating additional research, EFL wrote the RSA report, which was reviewed by Jacob and the team.

Jacob did not attend the site visits at the additional locations, but was the primary reviewer at HQ of the RSAs produced.

CONNECTION TO WIDER TRANSPORTATION COMMUNITY

Improving access to National Wildlife Refuges cannot be done in a vacuum; it is imperative that the FWS Transportation Program connect to the wider transportation community, both physically (through services and facilities) and logistically/administratively (through partnerships).

While other transportation agencies (e.g. municipalities, counties, states) are generally contiguous, and are responsible for all of the transportation facilities within their boundaries, the FWS is located in all 50 states and some territories; is divided among hundreds of stations; and borders thousands of local governmental agencies. For that reason, the Service focuses not only on facilities within its borders, but also on connecting facilities. A Refuge road in a good state of repair cannot be fully appreciated if the county road leading to the Refuge is in poor condition.

At the HQ level, one of the most important partnerships (or connection to the transportation community) is the relationship with the FLH Division Offices and HQ Office. The Service's Transportation Program is in constant communication with FLH. The agencies work together to ensure that each are able to execute their missions. To do so, the Service must be clear about its needs and success with the FLTP program. Similarly, FLH also must advocate for the Service (and other FLMAs), and also work to deliver projects efficiently. Without this partnership, the Service would not be able to provide quality access and mobility to and within its stations.

THE PUBLIC LANDS TRANSPORTATION LANDSCAPE

The most important thing to remember when working as a transportation professional for a public land agency is that transportation is part of the visitors' experience. It's important to have safe, efficient, reliable, and accessible transportation options, but it is also important to make visitors; experience comfortable, enjoyable, and educational whenever possible. I know from my own experience that visiting public lands, especially the larger and more congested units, includes a lot of movement along transportation systems. Visitors will remember if those systems were of a high quality or not. This makes transportation planning in public lands exciting, as you get to think of your projects as education and recreation, not just movement of people.

The working environment in a FLMA is unique. Working in public land units involves a lot of communication up and down levels of the Federal government. It can be a challenge when coordinating with counterparts in different time zones, or remote locations. A lot of communication is done electronically rather than face to face. Also, projects can move more slowly than you are accustomed to, due to the approvals required with development on public lands.

Particularly challenging at the HQ level was the number of stakeholders involved in every project. I found it most helpful to define roles for everyone (especially when someone brings a specific skill set to the table), to document all decisions, and always keep in mind the specific problem that you are trying to solve, in order to avoid scope creep.

CASE STUDY FOR FUTURE PUBLIC LANDS TRANSPORTATION SCHOLARS

As an Advanced PLTS, I had already completed one year working as a Scholar at the San Diego National Wildlife Refuge Complex (SDNWRC). The differences between working at the SDNWRC and the FWS HQ office were significant. While at the SDNWRC, I worked very closely with Refuge staff and the neighboring communities, which really helped me transition into the HQ role. While at HQ, I learned a lot more about how the Transportation Program and the NWR System function at the national level.

Since I had previous experience with the Service, it was exciting to be able to help the other Scholars when they needed someone to brainstorm with, or when they needed career advice. The monthly calls with the mentors were a great opportunity to take a step back from my daily work and think more about the future of my projects and the career development of all of the Scholars. I especially liked when other transportation professionals joined the calls and brought a different perspective to the table.

Another interesting aspect of working at the HQ level in Washington, D.C., was the proximity to partner agencies and decision makers. It was really helpful to be able to meet with partners in person and to be engaged in the conversations that affect the direction of the Transportation Program. One great example was that I was able to meet with the staff from the office of the Secretary of Transportation regarding the Service's TIGER grant. Through meeting with them, we were able to make a plan to refine our application and tailor it to better fit the TIGER program in future rounds of funding.

There were also a few challenges that came with working at the HQ level. First, as I was working with the Service during the transition of administration, there were changes not only to the dynamics in the office, but also the prioritization of projects. With the Trump administration, there were concerns over budget cuts and a reorganization, which lowered employee morale across the office.

On the other hand, there were conversations regarding a potential infrastructure stimulus package -- which prompted the Transportation Program to prepare itself with a list of large projects that could potentially be funded through the bill.

Regarding prioritization of projects: Under the Obama administration, there was a strong emphasis on safeguarding infrastructure from the potential risk of climate change, and also on providing outdoor recreation/education opportunities to youth in urban areas. Once the Trump administration came into office, the priorities shifted to focusing on large infrastructure projects and asset management. While the Transportation Program will work to complete all of the projects I've mentioned previously in this report, it became apparent that any additional work toward those initiatives would be put on hold. Again, it was a challenge to my motivation with shifting priorities from the administration and the Service.

Although I faced some challenges, they taught me a crucial lesson: no matter what happens outside of my control, it was important to remember that my work was critical to the larger mission of the Service, and that I needed to continue to push my projects through, even if they seem less relevant than before.

Another piece of advice I would give Scholars, especially at the HQ level, is to define your scope of work and choose a skill set that you want to advance up front. While I enjoyed working on a variety of projects, I found that it was hard to excel in any given area because I was spread too thin.

PROFESSIONAL DEVELOPMENT

As a second year, Advanced Transportation Scholar, I was afforded the opportunity of a higher level of responsibility. Since the Transportation Program is relatively small, I was able to work on a wide variety of projects and become fully integrated into the operations of the Transportation Program, which was an experience that other similar scholar/fellowship programs may not offer.

One of the most beneficial aspects of the program on my professional development was networking with people across the country. I was able to work with transportation professionals at the Federal level, including people in the FLTP program, DOT, and FHWA. I was also able to work with professionals at the state and local level as I worked on site specific projects.

Another great professional development opportunity the PLTS program offers is the option to attend conferences with the $1000 professional development budget. I attended the 2016 National Bike Summit, where I had the opportunity to learn about bicycle tourism on public lands, particularly the importance of connecting with gateway communities. I was also able to network with professionals working in the non-motorized field in FLMAs, FLH, states, and other agencies.

The second conference I attended was the Every Day Counts (EDC) Summit in Baltimore. The EDC Summit is hosted by the FHWA Center for Accelerating Innovation (CAI). The purpose is to gather together transportation professionals at the state and FLMA level to present the latest, proven yet underutilized, innovations to shorten the project delivery process, enhance roadway safety, reduce congestion and improve environmental sustainability. I learned how the FWS can work through the CAI to implement these innovations at the station level.

Lastly, I attended and presented at the 2017 Transportation Research Board Meeting in Washington, D.C. The session I presented in was Long-Range Transportation Planning on Federal Lands: Re-envisioning Public Access and Considering Key Partnerships.

In addition to networking with other public sector professionals, I was also able to work closely with consultants and learn about the private sector.

Ultimately, the PLTS program offers Scholars a high level of independence and responsibility; great networking opportunities across the country; and the opportunity to attend a range of conferences.

APPENDIX I NATIONAL LRTP OBJECTIVES AND PERFORMANCE TARGET BY GOAL AREA

National LRTP Objectives and Performance Targets by Goal Area

		Current Performance	20 Year Target Performance
Coordinated Opportunities Objectives:	▪ Increase the total number of official Fish and Wildlife partners and friends groups year to year	230 Unique organizations	Plus 10% nationally
	▪ Increase the percentage ratio of supplemental funding to base funding for projects and planning	23% or about $7M/yr. (10 yr. avg)	40%
	▪ Increase the yearly number of transportation projects using multiple funding sources	Baseline established at year 1	5 per year nationally
Asset Management Objectives:	▪ Increase percentage of road miles in good or excellent condition	62% RIP Cycle 4	80% or higher
	▪ Maintain percentage of trail miles in good or excellent condition	84% RIP Cycle 3	Greater than or equal to current performance
	▪ Increase percentage of bridges in good or excellent condition	65%	95% or higher
	▪ Increase percentage of programmed FLTP projects that have been scored and prioritized via a standardized selection process	None (0%)	50% in 2 years, 100% in 5 years
Safety Objectives:	▪ Complete safety assessments for highly visited refuges	Baseline established at year 1	5 per year nationally
	▪ Reduce number of transportation related fatalities that occur on refuges and hatcheries	2 fatalities in past 5 years	Zero fatalities
	▪ Reduce number of wildlife/vehicle collisions	Baseline established at year 1	Zero collisions
Environmental Objectives:	▪ Increase percentage of transportation projects that track the elements of the Roadway Design Guidelines through the Project Acknowledgements checklist	Baseline established at year 1	60% at year 1, 100% by year 5
	▪ Increase the number of projects that enhance aquatic or terrestrial organism passage	Baseline established at year 1	5 per year nationally
	▪ Complete assessments on existing wildlife crossings and aquatic passages	Baseline established at year 1	2-3 per year nationally
	▪ Reduce or offset the carbon footprint of the transportation network (The Climate Leadership In Refuges, or CLIR tool, will provide guidance with this)	Baseline established at year 1	20% below 2010 baseline
Access, Mobility and Connectivity Objectives:	▪ Increase the total number of multi-modal connections to refuges and hatcheries (The pending Multi-Modal Catalog, being drafted by the Volpe Center, will provide guidance with this)	Baseline established at year 1	3 per year
	▪ Increase the number of multi-modal transportation options on refuges and hatcheries (Also, see Multi-Modal Catalog)	Baseline established at year 1	5 projects per year
	▪ Increase number of projects that improve access at main ingress/egress points	Baseline established at year 1	2-3 projects per year
Visitor Experience Objectives:	▪ Integrate wayfinding and ITS into transportation projects	Baseline established at year 1	2-3 projects per year
	▪ Maintain or improve transoprtation satisfaction ratings (Based on National Visitor Survey)	75% 'Highly Satisfied' with 'Very Important' elements	Greater than or equal to current performance

APPENDIX II COMPREHENSIVE TRANSPORTATION NEEDS ASSESSMENT: INSTRUCTIONS, GOOGLE FORM EXAMPLE, AND SCORECARD

U.S. Fish & Wildlife Service

FWS Transportation Program

National Comprehensive Transportation Needs Assessment

Guidance on Assessing Needs at Your Station and Submitting Projects to the RO

March, 2017



Agenda

1. Purpose. What is the needs assessment?
2. Eligible projects
3. Step-by-step procedure
4. Submitting transportation needs in the future
5. Questions


Ridgefield NWR, WA

Purpose. What is the transportation needs assessment?

Primary Uses of the Data

1. **Prioritize projects:** Implement a more objective approach to prioritizing projects based on goal areas included in the Long Range Transportation Plans
2. **Discretionary funding:** For priority projects that cannot be funded with base transportation funding, RO and HQ staff can help stations apply for grants and other discretionary funding programs

1. Purpose. What is the transportation needs assessment?

Primary Uses of the Data

1. **Reauthorization Papers:** With a defensible, comprehensive set of transportation needs, the FWS stands an improved chance of increasing it's base Federal Lands Transportation Program funding.
2. **Administration's Infrastructure Investments**: Helps us quickly and accurately respond to transportation needs data calls from Congress and FHWA, a frequent request lately that may yield $$$.

Eligible Projects for Transportation Needs Assessment

2. Eligible Projects for Transportation Needs Assessment

Criteria for new work orders (1 of 4):

- Projects needs should be **unconstrained**
- Don't limit your responses to what you think may typically get funded. Think beyond maintenance. Consider how to really connect to your neighboring communities and transportation systems.
- Projects do not need to be vetted with partners at this point

2. Eligible Projects for Transportation Needs Assessment

Criteria for new work orders (2 of 4):

- Project proposals should include any transportation need within the Refuge/Fishery unit, as well as all connecting facilities owned and/or maintained by non-Federal agencies that provide access to the Refuge/Hatchery (AKA FLAP eligible)
- Any mode of transportation or asset type
  - Road, trail, boat launch, parking area, pull-out, bridge, transit station, shuttle, etc.)
- Include projects for wildlife and aquatic passage

2. Eligible Projects for Transportation Needs Assessment

Criteria for new work orders (3 of 4):

- No projects already confirmed for funding (FLTP, ERFO, FLAP, or any other source)
- Only projects over $5,000
- Deferred Maintenance, Capital Improvement, or other (other will be recorded as AD)
- Not annual maintenance/operation costs

2. Eligible Projects for Transportation Needs Assessment

Criteria for new work orders (4 of 4):

- The Forms will create child work orders, so each form should be for an individual asset, however, some grouping can be done.
  - For example: if a road needs to be raised, paved, and include replacement of all of the culverts, then you do not need to fill in a form for each of the culverts. Just describing that in the long description will suffice.
  - On the other hand, stations should not submit one Google Form requesting to "pave all roads in the station."
- Bridges should have their own Google Form

2. Eligible Projects for Transportation Needs Assessment

Project Example -- Connectivity

Ridgefield NWR, WA

Problem: Railroad tracks separated parking area from trails.

Solution: Pedestrian bridge over RR tracks.

2. Eligible Projects for Transportation Needs Assessment

Project Example – Aquatic Passage

Kenai NWR, Skilak Loop Road

Problem: Inadequate culvert prevented aquatic passage

Solution: Install bottomless culvert

2. Eligible Projects for Transportation Needs Assessment

Project Example -- Safety

San Luis NWR, CA

Problem: Unsafe conditions to enter Refuge.

Solution: Safety turn pocket project

2. Eligible Projects for Transportation Needs Assessment

Project Example -- Accessibility

Chincoteague NWR, VA

Problem: Narrow causeway didn't allow for safe access for visitors on bicycles.

Solution: Construct separated bike/ped path.

Step-by-Step Procedure

3. Step-by-step procedure

Overview

1. RO issues data call
2. Station staff complete a Google Form for each new transportation need; request deleting unnecessary work orders
3. HQ staff compile all projects and enter into SAMMS as work orders
4. RO scores all projects – highest priority projects included into 5 Year Plan
5. HQ staff help apply for grants for additional high-priority projects

3. Step-by-step procedure

1. RO issues data call

- The data call email includes the following items to complete the needs assessment
  - **Real Property Inventory**: A link to a Share Point that holds a PDF with an RPI number for each existing asset. You'll need to download the PDF to reference while filling out the Forms
  - **Existing Work Orders:** A spreadsheet with existing work orders for the region, separated by station
  - **A link to a Google Form:** This will be used for submitting projects

3. Step-by-step procedure

2. Station staff complete a Google Form for each new transportation need; request deleting unnecessary work orders

- As you go through the list of existing work orders for your station, note those work orders that are no longer relevant (i.e. already complete, no longer a need, asset no longer exists, etc).
- Respond in an email to your RTC with the work order numbers for any work order you would like to delete from SAMMS
- For those existing work orders that you would like to provide more information (read: have a higher likelihood of being funded), make a new work order using the Google Form, but also ask your RTC to delete the existing work order number

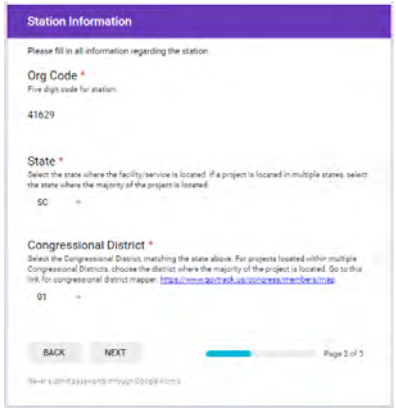
3. Step-by-step procedure

2. Station staff complete a Google Form for each new transportation need; request deleting unnecessary work orders

- For new and updated work orders, complete the Google Form
- Five pages
- Please read all instructions
- Requests your email so that it can send you a confirmation and a link to edit your original response
- All fields required
- A Form must be completed before closing window
- After you understand the process, you will be able to complete each Form in a few minutes

3. Step-by-step procedure

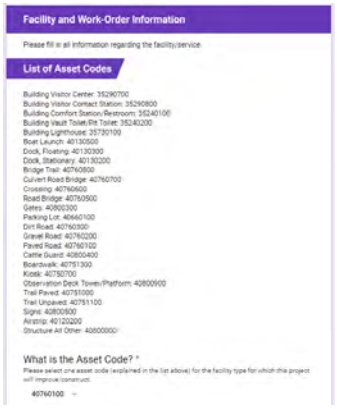
2. Station staff complete a Google Form for each new transportation need; request deleting unnecessary work orders



- Write in five digit Org Code
- Select state in which the majority of the project is located
- Select Congressional District in which the majority of the project is located.

3. Step-by-step procedure

2. Station staff complete a Google Form for each new transportation need; request deleting unnecessary work orders



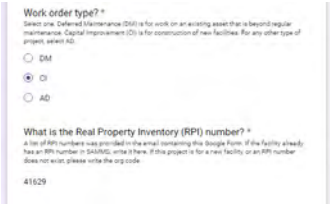
Select one asset code for the primary asset of this project.

For example: if you are proposing the construction of an exit ramp and under-pass with culverts and bike lanes, choose Paved Road: 40760100. You do not need to enter the culverts and bike lanes. Just describe that later in this Form in the Project Description.

3. Step-by-step procedure

2. Station staff complete a Google Form for each new transportation need; request deleting unnecessary work orders

- Choose Deferred Maintenance (DM), Capital Improvement (CI), or other (AD)
  - Most projects will be DM or CI
  - DM is for work on an existing asset that is beyond annual maintenance
  - CI is for construction of a new facility
  - For all other project (i.e. transit service, a water trail, etc.), use AD



- RPI number is for an individual asset. If the asset already exists, it will have an RPI number in the document provided in the share point in the data call email. If it will be a new asset, write in the org code.

3. Step-by-step procedure

2. Station staff complete a Google Form for each new transportation need; request deleting unnecessary work orders

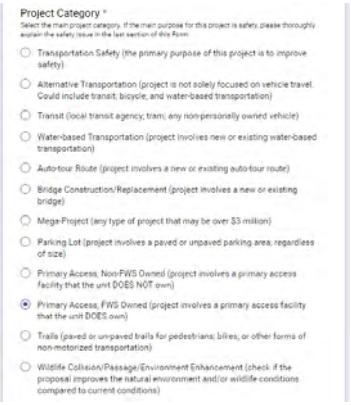
These questions are necessary since we are also asking for projects that provide access to stations (AKA not owned and/or maintained by the FWS).

If a facility is/will be owned or maintained by an external agency, write in the name here.

If it will be partially owned/maintain by FWS and partially owned/maintained by another agency, choose FWS, then describe the partnership later in the Coordinated Opportunities section.

3. Step-by-step procedure

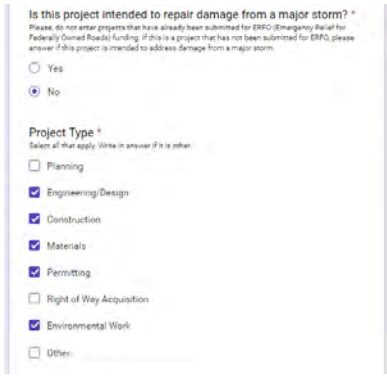
2. Station staff complete a Google Form for each new transportation need; request deleting unnecessary work orders



Choose one project category. This list is selected based on the types of funding sources that may become available in the future. Of course, a project could include many of these, and that information is recorded elsewhere, but this is meant to record the primary purpose of the project.

3. Step-by-step procedure

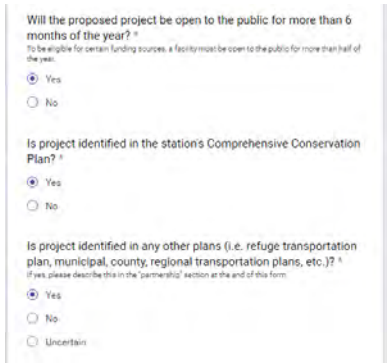
2. Station staff complete a Google Form for each new transportation need; request deleting unnecessary work orders



- Don't submit projects that have already been submitted for ERFO
  - But if this projects is intended to repair damage from a major storm, and hasn't been recorded yet, select yes.
- Project type: select all that apply. Can also write in if it is "other."

3. Step-by-step procedure

2. Station staff complete a Google Form for each new transportation need; request deleting unnecessary work orders



Some funding sources require a project be open to the public for more than half the year.

Answer if this project is included in the CCP

Answer if the project is included in any other plans. For example: this underpass example is included in the county's transportation plan.

3. Step-by-step procedure

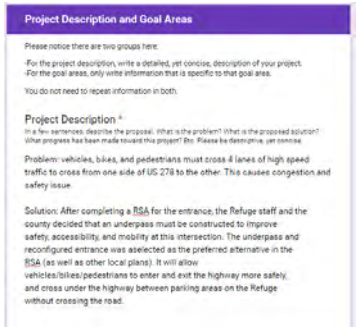
2. Station staff complete a Google Form for each new transportation need; request deleting unnecessary work orders

Enter in the best cost estimate you have. If you have the source of the cost estimate, write it in the project description. If you do not have a cost estimate provided by an engineer, provide your best estimate and explain that it is not an official cost estimate in the Project Description.

If project is ready for construction, choose Yes.

3. Step-by-step procedure

2. Station staff complete a Google Form for each new transportation need; request deleting unnecessary work orders

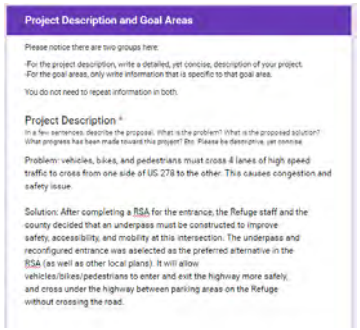


The last page is for the Project Description and the Goal Areas. Each project will receive a score for how well it addresses each goal area:

- Coordinated Opportunities
- Safety
- Asset Management
- Environment
- Access, Mobility, and Connectivity
- Visitor Experience

3. Step-by-step procedure

2. Station staff complete a Google Form for each new transportation need; request deleting unnecessary work orders



Project Description and Goal Areas

Please notice there are two groups here:

-For the project description, write a detailed, yet concise, description of your project.
-For the goal areas, only write information that is specific to that goal area.

You do not need to repeat information in both.

Project Description *

In a few sentences, describe the proposal. What is the problem? What is the proposed solution? What progress has been made toward this project? Etc. Please be descriptive, yet concise.

Problem: vehicles, bikes, and pedestrians must cross 4 lanes of high speed traffic to cross from one side of US 278 to the other. This causes congestion and safety issue.

Solution: After completing a RSA for the entrance, the Refuge staff and the county decided that an underpass must be constructed to improve safety, accessibility, and mobility at this intersection. The underpass and reconfigured entrance was aselected as the preferred alternative in the RSA (as well as other local plans). It will allow vehicles/bikes/pedestrians to enter and exit the highway more safely, and cross under the highway between parking areas on the Refuge without crossing the road.

The Project Description is meant to describe the problem and the proposed solution.

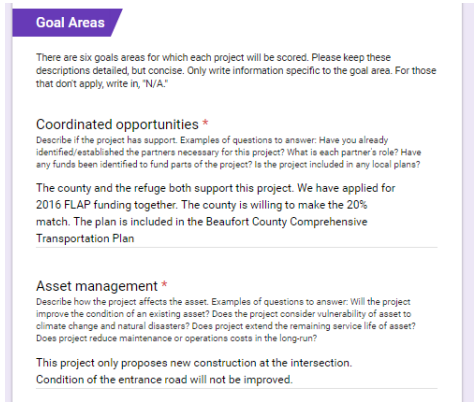
Why is it important to the mission? What purpose will it serve? How much will it be used, and by whom?

For construction projects, provide measurements and materials (length and width of boardwalks, bridges, trails, docks, etc.), if you can.

Include any additional information that describes the overall project.

3. Step-by-step procedure

2. Station staff complete a Google Form for each new transportation need; request deleting unnecessary work orders



Goal Areas

There are six goals areas for which each project will be scored. Please keep these descriptions detailed, but concise. Only write information specific to the goal area. For those that don't apply, write in, "N/A."

Coordinated opportunities *

Describe if the project has support. Examples of questions to answer: Have you already identified/established the partners necessary for this project? What is each partner's role? Have any funds been identified to fund parts of the project? Is the project included in any local plans?

The county and the refuge both support this project. We have applied for 2016 FLAP funding together. The county is willing to make the 20% match. The plan is included in the Beaufort County Comprehensive Transportation Plan

Asset management *

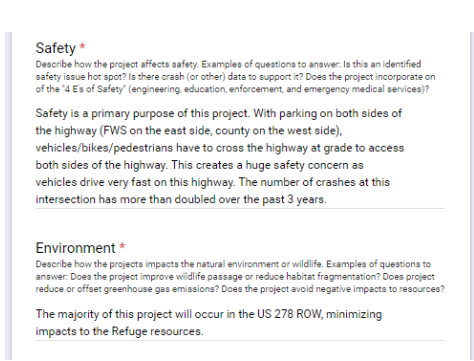
Describe how the project affects the asset. Examples of questions to answer: Will the project improve the condition of an existing asset? Does the project consider vulnerability of asset to climate change and natural disasters? Does project extend the remaining service life of asset? Does project reduce maintenance or operations costs in the long-run?

This project only proposes new construction at the intersection. Condition of the entrance road will not be improved.

In the Goal Areas, only write in information that is relevant to that specific Goal Area.

3. Step-by-step procedure

2. Station staff complete a Google Form for each new transportation need; request deleting unnecessary work orders



Safety *

Describe how the project affects safety. Examples of questions to answer: Is this an identified safety issue hot spot? Is there crash (or other) data to support it? Does the project incorporate on of the "4 Es of Safety" (engineering, education, enforcement, and emergency medical services)?

Safety is a primary purpose of this project. With parking on both sides of the highway (FWS on the east side, county on the west side), vehicles/bikes/pedestrians have to cross the highway at grade to access both sides of the highway. This creates a huge safety concern as vehicles drive very fast on this highway. The number of crashes at this intersection has more than doubled over the past 3 years.

Environment *

Describe how the projects impacts the natural environment or wildlife. Examples of questions to answer: Does the project improve wildlife passage or reduce habitat fragmentation? Does project reduce or offset greenhouse gas emissions? Does the project avoid negative impacts to resources?

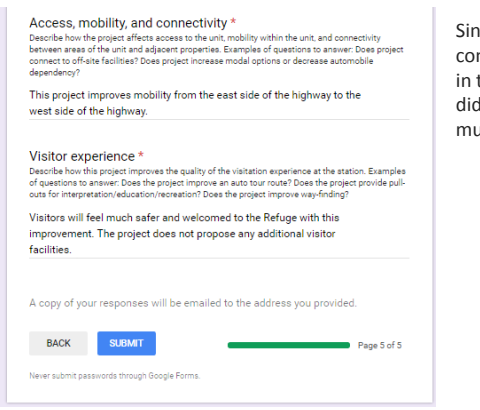
The majority of this project will occur in the US 278 ROW, minimizing impacts to the Refuge resources.

If the project's primary impetus is safety (e.g. turn lanes off of highway), document any recorded crashes or major concerns.

For environment: only include information if the environment will be effected. Does the project improve habitat? Reduce pollution, etc?

3. Step-by-step procedure

2. Station staff complete a Google Form for each new transportation need; request deleting unnecessary work orders



Access, mobility, and connectivity *

Describe how the project affects access to the unit, mobility within the unit, and connectivity between areas of the unit and adjacent properties. Examples of questions to answer: Does project connect to off-site facilities? Does project increase modal options or decrease automobile dependency?

This project improves mobility from the east side of the highway to the west side of the highway.

Visitor experience *

Describe how this project improves the quality of the visitation experience at the station. Examples of questions to answer: Does the project improve an auto tour route? Does the project provide pull-outs for interpretation/education/recreation? Does the project improve way-finding?

Visitors will feel much safer and welcomed to the Refuge with this improvement. The project does not propose any additional visitor facilities.

A copy of your responses will be emailed to the address you provided.

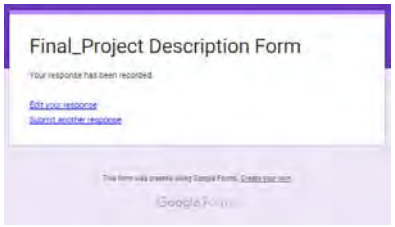
BACK SUBMIT Page 5 of 5

Never submit passwords through Google Forms.

Since I already describe the connectivity in more detail in the project description, I didn't need to write too much here.

3. Step-by-step procedure

2. Station staff complete a Google Form for each new transportation need; request deleting unnecessary work orders



After submitting, you may edit your response or submit a new response.

Alternatively, you can still use the original link later to submit more Forms. You will also receive an email with a link to edit a submitted Form.

3. Step-by-step procedure

3. HQ staff compile all projects and enter into SAMMS as work orders

- Some new fields have been added to SAMMS to capture all of the data
- All Google Forms automatically get compiled into a single Google Sheet
- Staff in the HQ Facilities, Equipment, and Transportation Division will extract the Google Sheet and prepare it for upload into SAMMS
- Each Google Form will now exist as a child work order in SAMMS under a single parent work order for the station
- In the future, if a project is funded, child work orders will be arranged to form projects

3. Step-by-step procedure

4. RO scores all projects – highest priority projects included into 5 Year Plan

Based on a procedure detailed in the adopted National Long Range Transportation Plan, the RTC, along with other staff from the RO and HQ, will score each work order submitted (or a group of child work orders, if multiple work orders constitute a single project)

- Coordinated Opportunities
- Access, Mobility, & Connectivity
- Asset Management
- Environmental
- Safety
- Visitor Experience

3. Step-by-step procedure

4. RO scores all projects – highest priority projects included into 5 Year Plan

- Highest priority projects that are best suited for base FLTP funding will be programmed into the 5 year plan
- Project score is not the only criterion for being programmed. Project readiness, staff availability, critical safety concerns, and other criteria will also be considered
- Will help achieve performance management objectives in the National and Regional Long Range Transportation Plans. Examples:
  - 80% of roads in good or better condition
  - Zero roadway-caused fatalities
  - Increase impactful partnerships
  - Increase # of projects lowering wildlife or aquatic resource impacts
  - Increase multi-modal options

3. Step-by-step procedure

5. HQ staff help apply for grants for additional high-priority projects

- With all projects entered into SAMMS, HQ and RO staff will be able to easily filter through projects that qualify for a variety of grant opportunities
- For project submissions that are high priority, but not included in the 5 year plan, HQ and RO staff will help stations apply for grants

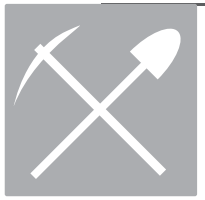
Submitting Project Needs in the Future

4. Submitting Project Needs in the Future

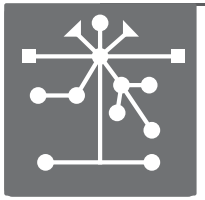
- In FY 2018, all RTCs will compile their 5 year plans in SAMMS
- Having this information already in SAMMS will streamline the project selection process in future years
- After this initial data call, the Google Sheet will be archived
- After this data call, as field staff discover new transportation needs, they can submit a Google Form at any time
  - HQ/RO will roll up any new submissions on a yearly basis to capture and score any new projects
  - Field staff should never re-enter an existing project in a new Google Form

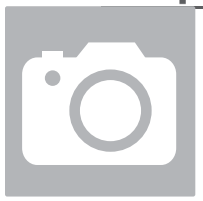
Questions/Discussion

Project Scorecard

	Data Inputs	Criteria Elements	Points
Coordinated Opportunities 	• List of partner organizations on regional or national level • Letters of support from partner organizations • State and/or regional transportation plans (STIPs, TIPs, etc.)	• Consider the use of funding or partner expertise for planning, design, construction, and/or operations from a partner organization • Partners can also help manage or operate the completed transportation facility. • Scoring may be on percentage of partner funding: 10% or less of total project cost, 10-50% of total project cost, or greater than 50% of total project cost • Project has a letter of support from a partner agency • Project includes financial support or in-kind support from a partner agency	**10 points**
Asset Management 	• Project description • SAMMS data • RIP data • NBI and other bridge data • FCI/API matrix	• Project will bring an asset with a current condition rating of Fair, Poor, or Failed to a condition of Good or Excellent, or improves an identified deficiency • Project takes into account vulnerability to changing weather patterns and natural disasters • Project extends the remaining service life of an existing asset • Project improves an identified deficiency • Project incorporates cost-savings plan for operations and maintenance to reduce long term costs	**20 points**
Safety 	• Project description • RIP questionnaire • Road safety audit • Crash data • FARS • NBI and other bridge data	• Improves transportation-related safety for visitors, staff, and/or wildlife • Enhancements and countermeasures included in project description: Road safety audits, signs and markings, traffic calming measures and movement restrictions, wildlife crossings, barriers, vegetation control, surface improvements, visiting hours • Project references: Highway Safety Manual, Interactive Highway Safety Design Model, NATCO Bikeway Design Guide, FWS Roadway Design Guidelines, etc. • Project site has documented crash history or is identified as a safety issue 'hot spot' • Project incorporates one or more of the "4Es" of safety (engineering, education, enforcement and emergency medical services)	**20 points**

Environmental	Data Inputs	Criteria Elements	Points
	• RIP/RATE survey • CCP notation of sensitive resources • Project description • Roadway design guidelines • CLIR Tool	• Project includes context sensitive enhancements for wildlife connectivity and reduction of habitat fragmentation • Project will reduce or offset greenhouse gas emissions • Project is designed to avoid negative impacts to fish, wildlife, habitat, cultural and aquatiuc resources through the Roadway Design Guidelines or Adaptive Mitigation principles	**20 points**

Access Mobility and Connectivity	Data Inputs	Criteria Elements	Points
	• Maps of local transportation systems • Project description • RATE maps and project list • RIP road classification • List of urban refuges	• Project expands modal options or reduces dependency on private automobiles • Project expands on and/or off-site connectivity with increased connections to existing transportation systems, roads, trails and transit (if applicable) • Project expands access to visitor groups that are underrepresented or limited by mobility • Project includes elements that are addressed or identified in other organizations (state DOTs, MPOs, cities/municipalities) long or short term planning documents • Addresses a congestion "hot spot" • Project description includes a measure of the (quantity and/or quality) of existing transportation infrastructure	**15 points**

Visitor Experience	Data Inputs	Criteria Elements	Points
	• CCP or transportation plan • LRTP or RATE report • RAPP visitation • List of urban refuges • Visitor Service Plans and Assessments • US Census Data	• Addresses a congestion "hot spot" • Project includes access to recreational elements like trailheads, viewing blinds, and/or auto tour routes • Includes internal and external wayfinding for visitor orientation, including multi modal orientation (if applicable) • Project is listed or referenced in a transportation plan/analysis by FWS or partners • Project features enhancements that incorporate environmental education, interpretation and stewardship into the travel experience • Project improves access for underserved or underrepresented visitors	**15 points**

APPENDIX III CRASH DATA ANALYSIS AND NEW FIELDS FOR DATA COLLECTION

CRASH DATA ANALYSIS 2009-2017

U.S. Fish and Wildlife Service

5/26/2017

Connor, Jacob

Purpose

This document summarizes incident reports from the Law Enforcement Management Information System (LEMIS) database to discover trends in crash data across a range of variables. As the U.S. Fish and Wildlife Service (FWS or Service) Transportation Program develops its Safety Management System (SMS), HQ staff will continue to monitor the incidents reported in LEMIS to report trends in crashes on or near FWS managed lands.

This document also serves as the baseline to which reports on crash data trends will be compared in the future.

Background

In 2017, the FWS Transportation Program committed to implementing a more robust SMS to help discover the areas of largest safety concern, and implement appropriate projects to mitigate risk of crashes. Development of a SMS implements an action item spelled out in the recently completed National Long Range Transportation Plan (NLRTP).

The first step toward implanting a SMS was to create a list of minimum data fields to be collected for each reported crash in LEMIS (Appendix I). Refuge Law Enforcement (RLE) has included those fields in the LEMIS database and will require all RLE Officers to record the data for every crash they report in LEMIS.

Once the system is launched, and data is being collected over time, RLE will be able to provide reports to the Transportation Program on all incidents resulting in a crash. The Transportation Program will analyze trends based on the various data fields and identify hotspots that may require an intervention.

Dataset

The dataset was pulled from LEMIS on April 4, 2017. The dataset includes all incidents dating back to the start of LEMIS: 10/27/2009 to 4/4/2017.

The query (displayed in the attached Excel document) pulled all incidents that include the word “accident” in the “Regulation” or “Statute” fields. The query returned incidents related to:

- Accident, Boat/Vessel
- Accident, Other Vehicle
- Accident, Traffic
- Unauthorized moving of a vehicle involved in an accident on a National Wildlife Refuge.
- Failure to report accidents

The original dataset included 1464 incidents. 119 were removed because they did not relate to an accident or were duplicates (duplicates occurred when multiple vehicles in an accident resulted in multiple incidents reported). The remaining, unique 1343 incidents were used for the analysis.

Limitations in the Analysis

Currently, Refuge Law Enforcement (RLE) policy does not require Law Enforcement Officers (LEOs) to report accidents. LEOs are not trained to investigate accidents, so they usually wait for municipal, county, or state law enforcement to perform the investigation. Refuge LEOs only record the incident in

LEMIS when it is brought to their attention. Presumably, there are many more crashes occurring on or near FWS managed lands that are not being recorded in LEMIS.

Another limitation is the fact that RLE Officers are spread very thin, and inconsistently among regions. For example, it could be that a region is showing more accidents simply because there are more RLE Officers available to respond to calls and record incidents in LEMIS.

An additional limitation to this report is that the data was not normalized to any additional factors. To accurately compare the data over time, the following normalizing factors could be used:

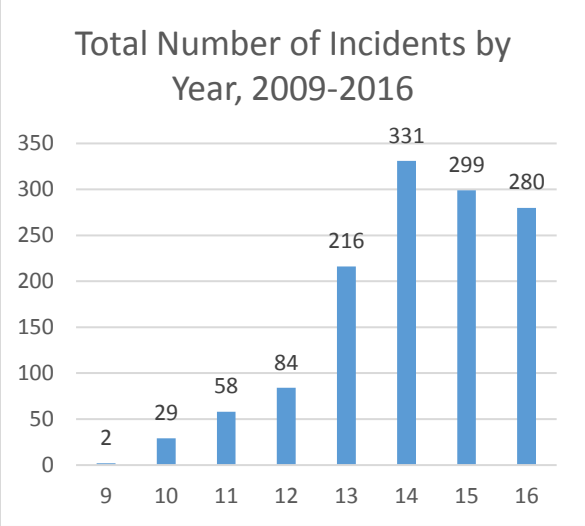
- Population growth
- Change in annual average daily traffic (AADT)
- Number of LEOs at a station, area, or region
- Change in acreage of Service managed lands
- Change in lane miles

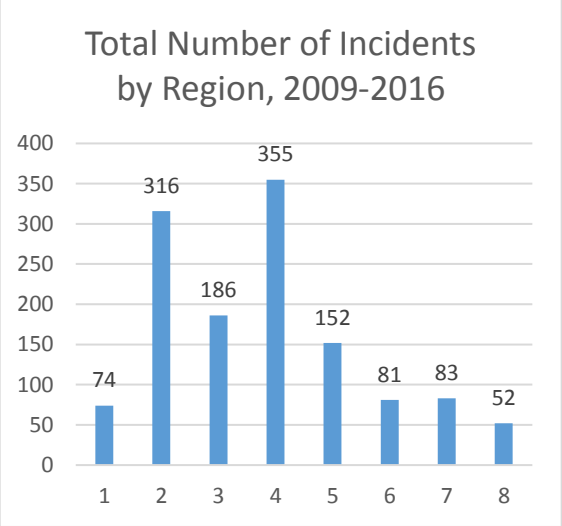
By normalizing the data to any of these factors, the Service may be able to identify causes of the changes in trends.

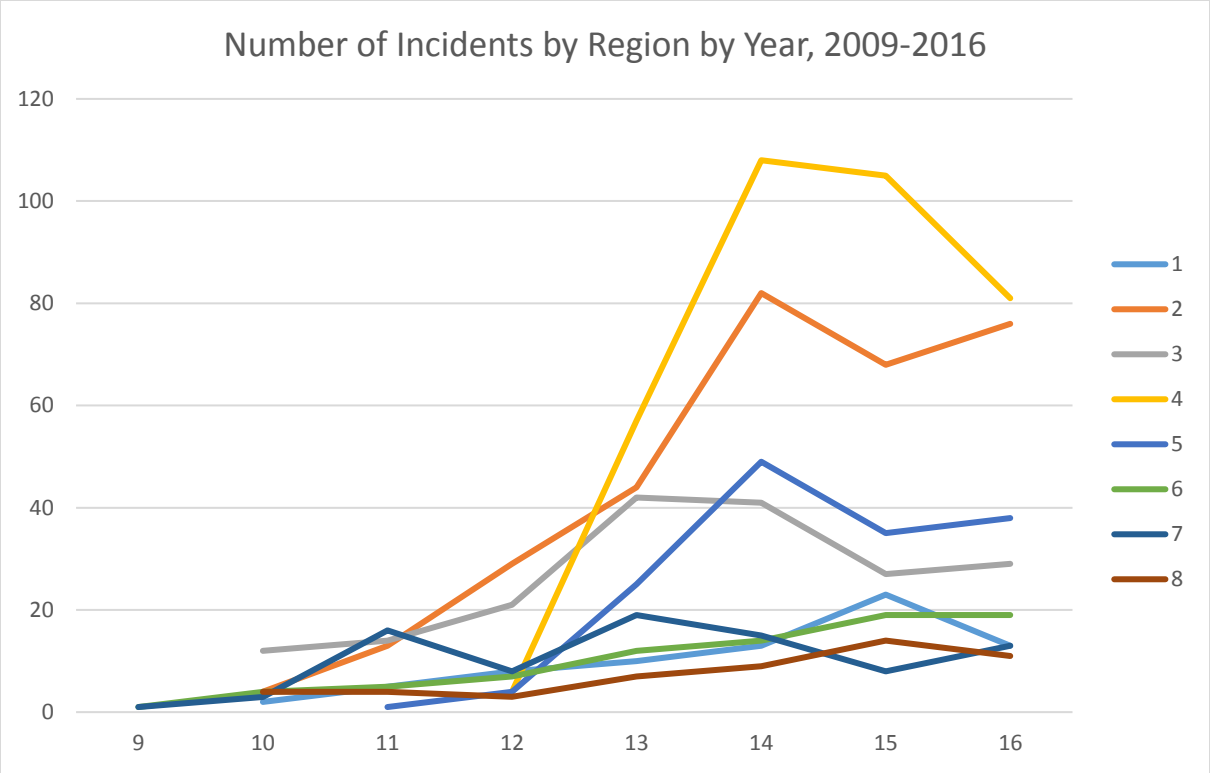
For this report, only the date, regulation, region, station, and lat/long (for a portion of incidents) were analyzed. In future years, the Transportation Program will be able to follow trends based on all of the new fields being recorded (Appendix I).

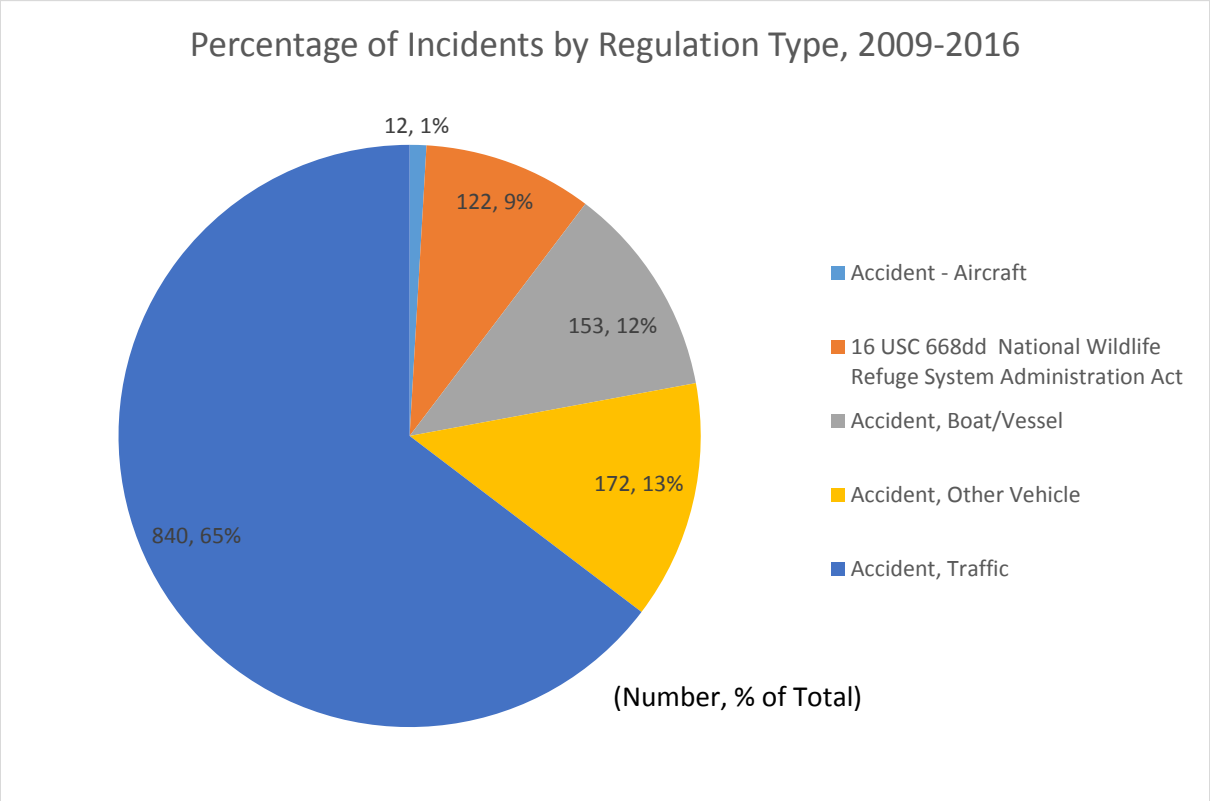
Analysis for 2009-2016

The following tables summarizes reported crashes that occurred from 2009 to 2016. All charts only include data up to 12/31/2016. The tables include data up to 4/4/2017.






Number of Incidents by Region by Year, 2009-2016
120
100
80
60
40
20
0
9
10
11
12
13
14
15
16
1
2
3
4
5
6
7
8


Percentage of Incidents by Regulation Type, 2009-2016
12, 1%
122, 9%
153, 12%
172, 13%
840, 65%
Accident - Aircraft
16 USC 668dd National Wildlife Refuge System Administration Act
Accident, Boat/Vessel
Accident, Other Vehicle
Accident, Traffic
(Number, % of Total)

Number of Incidents by Station, Top Five per Region (2009-2017)*

Region	Row Labels	Station/Complex/Area	Count of Incident
1	101	Oregon (NE)/Idaho (North)/Washington (East)	10
1	14560	Deer Flat NWR	8
1	12518	Guam NWR	6
1	13570	Malheur NWR	6
1	14621	Sheldon NWR	6
2	22530	Buenos Aires NWR	92
2	21670	Wichita Mountains Wildlife Refuge	90
2	202	Arizona - Other (South)	17
2	22552	Havasu NWR	16
2	21541	San Bernard NWR	9
3	33610	Crab Orchard NWR	70
3	33510	DeSoto NWR	17
3	32560	Tamarac NWR	12
3	33515	Boyer Chute National Wildlife Refuge	10
3	32576	Upper Mississippi River National Wildlife and Fish Refuge	9
4	41570	Merritt Island NWR	119
4	41540	J N Ding Darling NWR	18
4	41560	Arthur R Marshall Loxahatchee NWR	16
4	43660	Wheeler NWR	15
4	42510	Cape Romain NWR	10
5	51570	Chincoteague NWR	37
5	51640	Patuxent Research Refuge	14
5	51630	Canaan Valley NWR	12
5	52570	John Heinz NWR at Tinicum	9
5	53550	Parker River NWR	9
6	65500	SAN LUIS VLY NWR COMPLX	8
6	62680	Upper Souris NWR	7
6	61170	Rocky Mountain Arsenal NWR	6
6	62510	Arrowwood NWR	5
6	601	Montana - Other MT	4
7	74525	Kenai NWR	79
7	75600	Arctic NWR	3
7	74510	Alaska Peninsula/Becharof NWR - RAO	1
7	75620	KOYUKUK/NOWITNA NWR	1
8	81720	San Diego NWR	7
8	81672	Bitter Creek NWR	6
8	81648	Don Edwards San Francisco Bay NWR	5
8	84555	Desert National Wildlife Range	5
8	81682	San Diego Bay NWR	4

*Data includes all incidients from 10/27/2009 to 4/4/2017

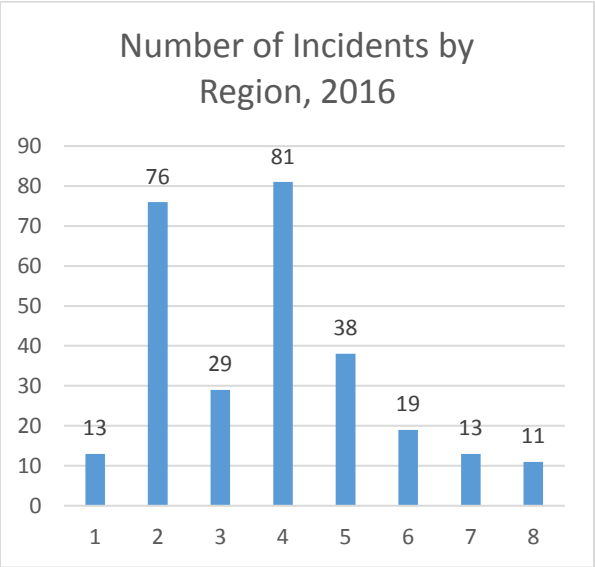
Number of Incidents by Station, Sorted by Count (2009-2017)*

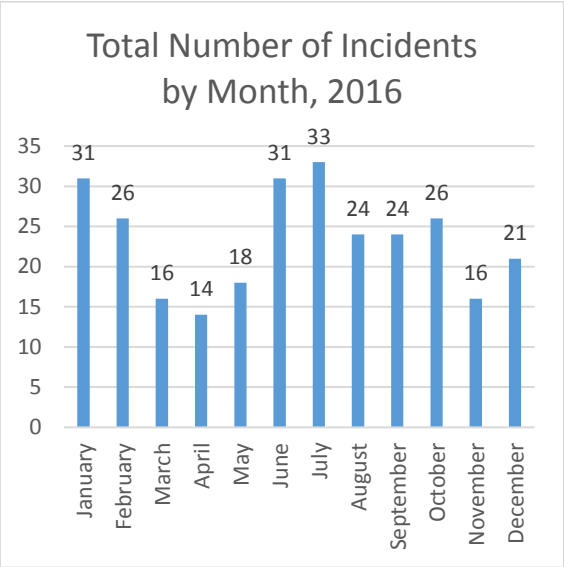
Region	Row Labels	Station/Complex/Area	Count of Incident
4	41570	Merritt Island NWR	119
2	22530	Buenos Aires NWR	92
2	21670	Wichita Mountains Wildlife Refuge	90
7	74525	Kenai NWR	79
3	33610	Crab Orchard NWR	70
5	51570	Chincoteague NWR	37
4	41540	J N Ding Darling NWR	18
2	202	Arizona - Other (South)	17
3	33510	DeSoto NWR	17
2	22552	Havasu NWR	16
4	41560	Arthur R Marshall Loxahatchee NWR	16
4	43660	Wheeler NWR	15
5	51640	Patuxent Research Refuge	14
3	32560	Tamarac NWR	12
5	51630	Canaan Valley NWR	12
1	101	Oregon (NE)/Idaho (North)/Washington (East)	10
3	33515	Boyer Chute National Wildlife Refuge	10
4	42510	Cape Romain NWR	10
4	43620	Noxubee NWR	10
2	21541	San Bernard NWR	9
2	22551	Bill Williams River NWR	9
3	32576	Upper Mississippi River National Wildlife and Fish Refuge	9
4	41680	Piedmont NWR	9
4	43610	Lacassine NWR	9
5	52570	John Heinz NWR at Tinicum	9
5	53550	Parker River NWR	9
2	201	Arizona - Other (North)	8
1	14560	Deer Flat NWR	8
2	22550	LAKE HAVASU NWR COMPLX - AZ	8
3	31530	Muscatatuck NWR	8
4	41590	Okefenokee NWR	8
4	41640	St Marks NWR	8
6	65500	SAN LUIS VLY NWR COMPLX	8
4	41528	Vieques NWR	7
5	51580	Great Dismal Swamp NWR	7
6	62680	Upper Souris NWR	7
8	81720	San Diego NWR	7
4	4TN1	Tennessee - Other	7
1	12518	Guam NWR	6
1	13570	Malheur NWR	6
1	14621	Sheldon NWR	6
2	21525	McFaddin NWR	6
5	51530	CHESAPEAKE MARSHLANDS NWR COMPLX	6
5	51531	Blackwater NWR	6
5	52530	Great Swamp NWR	6
6	61170	Rocky Mountain Arsenal NWR	6
8	81672	Bitter Creek NWR	6

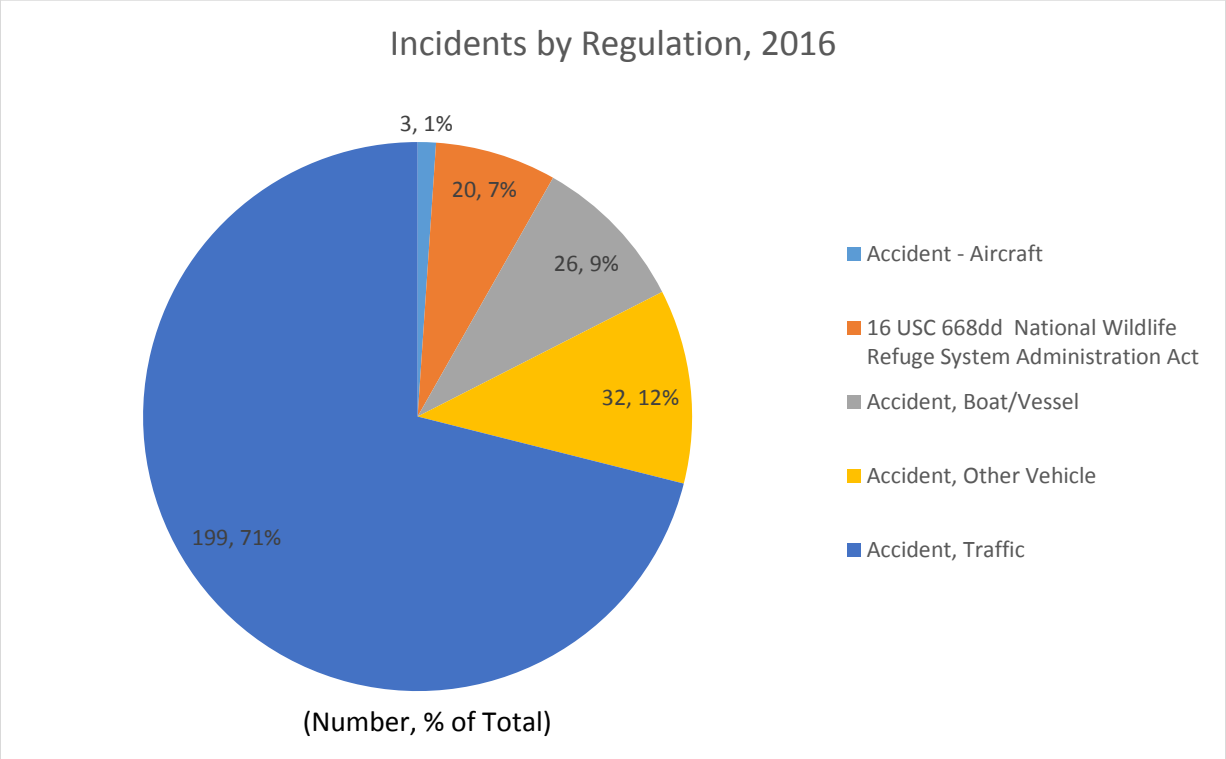
*Data includes all incidients from 10/27/2009 to 4/4/2017; all stations 6 crashes or greater

Analysis for 2016

The following charts and tables include data from 1/1/2016 to 12/31/2016.







Number of Incidents by Station, Sorted by Region and Count, 2016		
Region	**Station**	**Count of Incident**
1	Deer Flat NWR	2
1	Guam NWR	2
1	Ridgefield NWR	1
1	Turnbull NWR	1
1	Oregon (NE)/Idaho (North)/Washington (East)	1
1	HANFORD RCH NM/SADDLE MTN NWR - WA	1
1	Sheldon NWR	1
1	Idaho - Other (South)	1
1	Washington - Other (West) WA	1
1	Little Pend Oreille NWR	1
1	Malheur NWR	1
2	Buenos Aires NWR	26
2	Wichita Mountains Wildlife Refuge	19
2	Arizona - Other (South)	5
2	Havasu NWR	5
2	Sequoyah NWR	2
2	San Bernard NWR	2
2	Texas - Other (Middle) TX	2
2	LAKE HAVASU NWR COMPLX - AZ	2
2	Anahuac NWR	2
2	Laguna Atascosa NWR	2
2	TX CHENIER PLAIN RFGS COMPLX - TX	1
2	Sevilleta NWR	1
2	Bill Williams River NWR	1
2	Salt Plains NWR	1
2	Aransas NWR	1
2	Arizona - Other (North)	1
2	Balcones Canyonlands NWR	1
2	San Bernardino NWR	1
2	Cabeza Prieta NWR	1
3	Crab Orchard NWR	15
3	Boyer Chute National Wildlife Refuge	3
3	Upper Mississippi River National Wildlife and Fish Refuge	1
3	Big Stone NWR	1
3	Big Oaks NWR	1
3	Ottawa NWR	1
3	Sherburne NWR	1
3	Squaw Creek NWR	1
3	Tamarac NWR	1
3	DeSoto NWR	1
3	UPR MS RIV NATL WILDL AND FISH RFG-LA CROSSE DIST	1
3	Illinois (South)/Indiana (South)	1
3	Minnesota - Other (North)	1
4	Merritt Island NWR	21
4	Arthur R Marshall Loxahatchee NWR	5
4	Wheeler NWR	4
4	Pond Creek NWR	3
4	Okefenokee NWR	3
4	Hobe Sound NWR	3
4	South Carolina - Other SC	3
4	Cache River NWR	2
4	Santee NWR	2
4	Crystal River NWR	2
4	Bayou Sauvage NWR	2
4	Noxubee NWR	2
4	Dale Bumpers White River National Wildlife Refuge	2
4	J N Ding Darling NWR	2

Number of Incidents by Station, Sorted by Region and Count, 2016 (continued)		
4	D'Arbonne National Wildlife Refuge	1
4	North Carolina - Other NC	1
4	Grand Bay NWR	1
4	Harris Neck NWR	1
4	Cross Creeks NWR	1
4	Cameron Prairie NWR	1
4	Savannah NWR	1
4	St Marks NWR	1
4	National Key Deer Refuge	1
4	Tennessee - Other	1
4	CRYSTAL RIVER NWR COMPLX - FL	1
4	Waccamaw NWR	1
4	Pea Island NWR	1
4	Mackay Island NWR	1
4	Egmont Key NWR	1
4	Mattamuskeet NWR	1
4	Florida - Other (Northeast)	1
4	Alligator River NWR	1
4	Mississippi Sandhill Crane NWR	1
4	Tennessee NWR	1
4	Wassaw NWR	1
4	Bald Knob NWR	1
4	Alabama - Other AL	1
4	Lacassine NWR	1
4	Louisiana - Other (North) LA	1
5	Chincoteague NWR	11
5	Patuxent Research Refuge	4
5	Canaan Valley NWR	4
5	John Heinz NWR at Tinicum	3
5	Virginia - Other (Eastern Shore) VA	3
5	Parker River NWR	2
5	Monomoy NWR	2
5	Eastern Shore of Virginia NWR	2
5	Assabet River NWR	1
5	Sunkhaze Meadows NWR	1
5	Rachel Carson NWR	1
5	Connecticut - Other CT	1
5	Back Bay NWR	1
5	CHESAPEAKE MARSHLANDS NWR COMPLX	1
5	Great Meadows NWR	1
6	Rocky Mountain Arsenal NWR	5
6	Waubay NWR	2
6	Kansas/Colorado/Nebraska - Other	2
6	Arrowwood NWR	2
6	Audubon NWR	1
6	Flint Hills NWR	1
6	Nine-Pipe NWR	1
6	Bear River Migratory Bird Refuge	1
6	Upper Souris NWR	1
6	Montana - Other MT	1
6	National Elk Refuge	1
6	Lacreek NWR	1
7	Kenai NWR	13
8	San Diego Bay NWR	3
8	Desert National Wildlife Range	2
8	Tule Lake NWR	1
8	San Diego NWR	1
8	SAN FRANCISCO BAY NWR COMPLX - CA	1
8	KLAMATH BSN NWR COMPLX - CA	1
8	Bitter Creek NWR	1
8	Sacramento NWR	1

Appendix I. Proposed Data Fields to Collect for Crashes

Number	Field Name	Field Type	Options	Required Response?
1	Incident number	Numeric	N/A	Y
2	Date	Numeric	N/A	Y
3	Year	Numeric	N/A	Y
4	Time of incident	Numeric	N/A	Y
5	Route number/name	Text	N/A	Y
6	Posted speed limit	Numeric	N/A	N
7	Latitude (as accurate as possible)	Numeric	N/A	Y
8	Longitude (as accurate as possible)	Numeric	N/A	Y
9	Crash class	Check boxes (select all that apply)	Non-collision Vehicle Bicycle Pedestrian Animal - describe Fixed object - describe Other - describe	Y
10	Crash location	Radio button (select one)	On roadway At intersection At curve Off roadway On trail/path Parking area Bridge Other - describe	Y
11	Type of collision between vehicles	Radio button (select one)	Not applicable Angle Rear-end Head-on Sideswipe Other - describe	Y
12	Crash type	Check boxes (select all that apply)	Property damage Possible injury Injury Fatality	Y
13	Lighting conditions	Radio button (select one)	Daylight Dawn/dusk Dark - lighted Dark - not lighted	Y
14	Weather conditions	Check boxes (select all that apply)	Clear Cloudy Rain Snow Ice Fog, smog, smoke Sleet, hail, freezing rain Blowing sand, soil, etc. Crosswinds Other - describe	Y
15	Road surface conditions	Check boxes (select all that apply)	Dry Wet Icy Snowy Debris Muddy	Y
16	Potential contributing factors	Check boxes (select all that apply)	Human error Mechanical problems External	Y

APPENDIX IV ONE-PAGE DESCRIPTION AND FULL TIGER GRANT APPLICATION FOR CHINCOTEAGUE NWR

U.S. Fish & Wildlife Service

Multi-Modal Beach Access:

A project to support and sustain the local tourism-based economy, Chincoteague, VA

PROJECT BACKGROUND

+1 Million Visitors
Annually

~1,000
Space Parking Lot in Unsustainable Location Being Reshaped by Ocean

+$3.3 Million
In Repairs Since 2006

Each year over one million visitors enjoy the wildlife, the famous Chincoteague ponies, the historic lighthouse, and the recreational beach at Chincoteague National Wildlife Refuge (Refuge). Located on the Mid-Atlantic Coast of Virginia's Eastern Shore, the Refuge is situated on the southern one-third of Assateague Island.

Problem:

Since 2006, hurricanes and nor'easters have taken their toll on the beach parking lots, resulting in over $3.3 million in repairs. During any given storm, the likelihood of losing the land base supporting the parking lots and access roads is high. This underscores the need to relocate the Refuge's recreational beach and parking lots to a more sustainable location. Without relocation, the Town of Chincoteague and Accomack County could suffer huge economic losses as tourism spending would lessen and businesses would have a smaller customer base (more on next page).

Project Proposal Highlights

- Relocate beach parking to a new, sustainable location with approximately 1,000 vehicle parking spaces.
- Construct restrooms and other visitor facilities near the beach.
- Provide bike path on Refuge property that connects to the existing and planned bike facilities through the Town of Chincoteague

Project Landmarks

- October, 2015: Refuge completed National Environmental Policy Act (NEPA) compliance and public participation, obtaining final approval to relocate the recreational beach and parking lot 1.5 miles north of the current location. The new, more resilient location was selected through a structured decision-making process and based on input from local stakeholders and locally-generated coastal geomorphic and climatological data.
- Summer, 2016: submitted first TIGER grant (not awarded)
- Public NEPA scoping is tentatively scheduled to begin in July/August, 2017. A final decision document could be issued by March/April, 2018.

Cost and Funding

- Preliminary cost estimate: $15-20 million
- Committed funds:
  - $1 million National Park Service Funds
  - $2.4 million Fish and Wildlife Service Sandy Recovery Funds

Partners

- Accomack County
- Town of Chincoteague
- U.S. Fish and Wildfire Service
- National Park Service
- Federal Highway Administration

Beach crowd on a summer day in current location, 2015

Economic Impact

$200 Million in Economic Activity on Virginia's Eastern Shore.

Tourism at the Refuge generates an estimated $50 million for the Town of Chincoteague and $200 million for Virginia's Eastern Shore annually. Interruptions in visitor use caused by storm damage are costly to local economies, largely dependent on beach-related tourism. In 2013, the U.S. Fish and Wildlife Service Division of Economics reported that a reduction by one-half of the current parking capacity, which is approx. 1,000 vehicles, occurring from Memorial Day to Labor Day could result in a $38.4 million annual loss in local tourism revenue.

Below: Crowds during Pony Swim

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2016 TIGER Application

Multi-Modal Beach Access:

A project to support and sustain the local tourism-based economy, Chincoteague, VA

Submitted by: Accomack County, VA
4/29/2016

Contents

Appendices

Attachments

1. Benefit Cost Analysis

1.0 Introduction

Accomack County, on the eastern shore of the Commonwealth of Virginia, is requesting TIGER funding for a critical transportation project located in the Town of Chincoteague and the Chincoteague National Wildlife Refuge (CNWR) and Assateague Island National Seashore (ASIS). The project includes facilities for bicycle, pedestrian, and vehicle access to a new recreational beach at the CNWR, a beach that serves as the foundation for the tourism-driven economy of Chincoteague, with approximately $150 million in economic output attributable to Refuge annually.

This transformative project provides a rare opportunity to solve several pressing transportation access challenges at one time – producing several improvements that will ensure visitors' continued enjoyment of the popular seashore area, promote economic activity, and significantly reduce long-term maintenance funding needs.

Current access to the recreational beach is provided by a parking lot located on CNWR/ASIS, directly on the beach, in an unsustainable location that is frequently damaged or destroyed by strong weather events. This project will relocate the parking area to a sustainable location approximately three miles north and add bicycle and pedestrian facilitates to Maddox Boulevard, a primary commercial corridor in the Town of Chincoteague, to provide multi-modal access to the recreational beach. Moving the recreational beach was a primary outcome of the CNWR Comprehensive Conservation Plan/Environmental Impact Statement (CCP/EIS), the planning/environmental document that will guide management of the CNWR over the next 15 years. The plan was approved in November 2015.

The main goal of the Multi-Modal Beach Access transportation project is to make Chincoteague's tourism-based economy more resilient to such growing threats as sea-level rise, seashore erosion, and ever-stronger weather events. Without a strategic relocation of the parking area, recurrent flooding and road collapses from storm surges could result in a devastating loss of visitors and economic activity to the Town of Chincoteague. The "Chincoteague National Wildlife Refuge Economic Analysis in Support of Comprehensive Conservation Plan" estimated an *economic loss of $38.4 million dollars in Accomack and Worcester Counties from Memorial Day to Labor Day annually, in the event of a "no action" scenario* (Division of Economics U.S. Fish and Wildlife Service, 2013).

Besides improving economic and environmental resiliency, the Multi-Modal Beach Access project will also greatly reduce the cost of long-term maintenance. The National Park Service (NPS) with its ASIS unit will maintain the newly configured parking area and operate the visitor services associated with the recreational beach – just as it does now. A more secure location for the parking and related recreational infrastructure will significantly reduce the amount of NPS and FWS funding directed toward repairing and maintaining the current beach parking area (estimated to reduce by approximately $357,009 annually).

Through an exhaustive public involvement process required by NEPA, including community involvement and analyses of alternatives to provide sustainable access to the beach carried out during the CNWR CCP/EIS, Accomack County, the Town of Chincoteague, the NPS, and the

CNWR have now begun working together toward realizing a relocated recreational beach and associated transportation needs. This cooperation has been formalized in a recently signed MOU among all of the partners.

The new location will include an equal-size parking facility (961 spaces). Also, the improved bicycle facilities along Maddox Blvd. will achieve the community's desire to improve safety and enhance the quality of life of one of their main transportation and commerce corridors -- a project that has been included in both the Town of Chincoteague's "2010 Comprehensive Plan" and Accomack County's 2014 "Eastern Shore of Virginia Bicycle Plan."

Preliminary planning discussions among all of the partners have already begun and several other existing funding sources have been identified and can be used to leverage this TIGER grant opportunity. First, Super-storm Sandy recovery dollars have been aligned by the CNWR and the FWS. Also, one million dollars have been committed by the NPS. Finally, an additional $1.5 million was just committed to the facilities along Maddox Boulevard by the Town of Chincoteague as the Federal Transit Administration approved a re-scoping of a Paul S. Sarbanes Transit in Parks Grant that the town was awarded in 2011.

The county, town, community and the federal lands agencies are poised to deliver a transportation improvement that will serve future generations and provide great stability to the local economy. This $9.3 million TIGER Grant ask would leverage a committed funding amount of $4.9 million to realize a transformative $14.2 million project. Without the TIGER grant, this project will remain on the drawing table and the FWS/NPS will continue to spend an exorbitant amount of federal dollars maintaining a vulnerable parking lot in an unsustainable location.

2.0 Planning Efforts and Current Stage of Project Development

The following sub-sections will describe in more detail how the new parking lot location was chosen and how all of the facilities have become included in local transportation plans, the CNWR Comprehensive Conservation Plan (CCP), and/or the FWS National Long Range Transportation Plan.

2.1 CNWR Comprehensive Conservation Plan and Alternatives

Through the CCP process, the Refuge proposed several alternatives to retain access to the recreational beach. Ultimately, after completing a process of community engagement and several analyses, the Fish and Wildlife Service decided that the Refuge would pursue a relocated parking facility of equal size. Listed below are the other alternatives that were analyzed in the CCP:

- No change – continue costly maintenance in current location; may result in inability to pay for maintenance in the future
- Shuttle from a park and ride lot in town – this alternative was pursued to some extent, but ultimately was found unfavorable as visitors highly preferred direct access to the beach by vehicle or bicycle
- Multi-modal access to sustainable location – FWS and its stakeholders selected this alternative as it provided the closest access to the beach for visitors and is similar to the existing service

To find the optimal, most sustainable location, the Refuge included in its CCP a “Recreational Beach Structured Decision Making Process: Locating the Best Site for a Recreational Beach and Parking Lot.” The analysis broke the shoreline into mile-long segments and gave a score for multiple criteria to each mile. The segments with the highest scores were then selected as the most appropriate location for the new recreational beach and parking facility. Analysis criteria included: expected longevity of infrastructure, proximity to existing infrastructure, visitor safety and experience, and several additional wildlife-based criteria.

2.2 Local Transportation Planning

The enhanced bicycle and pedestrian facilities along Maddox Boulevard in the Town would fulfill goals and projects found in the Town of Chincoteague's "2010 Comprehensive Plan", Accomack County's 2014 "Eastern Shore of Virginia Bicycle Plan," and the Town's "Chincoteague 2020 Transportation Plan" written in 2002.

Furthermore, this project was added in 2016 to Virginia Department of Transportation's "Six-Year Transportation Improvement Plan."[1] The state estimates the Maddox Boulevard project to cost $2.565 million.

The Town of Chincoteague applied for a Federal Lands Access Program (FLAP) grant in 2015 to fund these necessary facilities within the Town, but it was not awarded in that lightly-funded,

[1] http://syip.virginiadot.org/Pages/allProjects.aspx#

very competitive program. This TIGER grant application is an opportunity for the Town and County to work hand in-hand with the federal land agencies to complete an improved transportation system from the Town to the seashore.

2.3 Fish and Wildlife Service National Long Range Transportation Plan

Implementation of this project is consistent with all six of the "Strategic Goals" described in the Service's recently completed National Long Range Transportation Plan (LRTP):

- Coordinated Opportunities Goal
- Asset Management Goal
- Safety Goal
- Environmental Goal
- Access, Mobility, and Connectivity Goal,
- Visitor Experience Goal

A project of this scale, involving several diverse partners and funding sources, is innovative for the Fish and Wildlife Service Transportation Program, which operates under an extremely tight budget. Bringing this many partners, stakeholders, and the community around the table to solve access, safety, state of good repair, and other goals is exactly how the FWS plans to work moving into the future. This type of coordination allows the Service to better leverage tax-payers' dollars. Winning the TIGER grant would spur the partners to work together with all possible speed to make this needed project a reality.

The ways in which this project addresses the goals of the Service's LRTP will be described in later sections of this grant application.

2.4 Current Stage of Project Development

As described above, elements of this project have gone through initial planning stages and have come to be included in Refuge, municipal, county, and/or state plans. All of the partner agencies (as described in section 4.0), have come together to sign a Memorandum of Understanding and an Interagency Agreement which are intended to bring all of the parties, and the community, around the table to begin NEPA and preliminary design/engineering, scheduled to occur 2016-2018. (See Appendix I)

Multiple existing funding sources have been identified for elements of the project, but there is still a large gap in funding needed. For the most part, funding has been committed to preliminary design and final engineering of facilities. This TIGER grant application is for construction, which is expected to occur late 2019 through 2020.

Timing for this TIGER opportunity is perfect as it would clear-up any uncertainty of how this transformative project will come to fruition. Spurred by the grant, the team can continue its momentum through the design stages and into construction. Without the TIGER grant, this project will remain on the drawing table and the FWS/NPS will continue to spend an exorbitant amount of federal dollars maintaining a vulnerable parking lot in an unsustainable location. The

Town of Chincoteague will also continue to have gaps in its bicycle facilities providing access to the Refuge, a safety and accessibility concern that must be addressed.

3.0 Project Description and Location

As mentioned in the introduction, this project includes the relocation of a vulnerable parking lot and access road to a more sustainable location; the addition of bicycle and pedestrian facilities along Maddox Boulevard; and, increased capacity at the entrance fee stations to the Refuge to create multi-modal access from the Town of Chincoteague to the recreational beach at the CNWR.

CNWR is located on the eastern shore of Virginia in Accomack County. The Refuge is located on Assateague Island, directly east of the Town of Chincoteague (Figure 1). The Refuge is only accessible by Maddox Boulevard/Beach Access Road, along a causeway extending southeast, from the Town of Chincoteague to the CNWR.

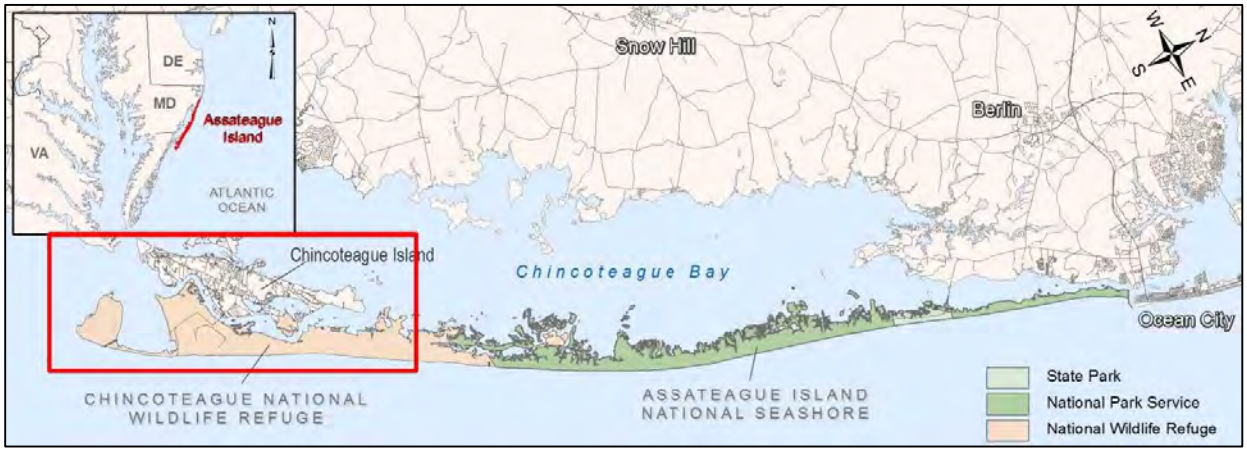


Figure 1 Project Location Map

Figure 2 shows the conceptual alignment of the proposed new bike path, along Maddox Boulevard, through the Town of Chincoteague, from Main Street to the traffic circle at Woodland Drive. It also shows the location of the new beach parking area in relation to the existing parking. As mentioned, the existing parking lot has been destroyed by several storms over the years, resulting in extremely costly rehabilitation, sometimes approaching $1 million for one incident.

Figure 3 shows the most recent damage caused by winter storm Jonas (January 2016). The entire parking lot was covered with sand and degraded. It cost the Federal government approximately $800,000 to repair (these repairs are currently underway for the upcoming peak summer recreational season and those costs are not included in this grant request).

Figure 2 Conceptual Bike Path and Parking Location

Figure 3 Parking Lot Damage Caused by Winter Storm Jonas, 2016

In contrast, the new parking location received little to no over-wash from the storm. As shown in figure 4, the new location is protected by an extensive man-made sand dune, is at a higher vertical elevation protecting it from severe weather, and is in a less-dynamic portion of the outer barrier island (note: this graphic is conceptual and the pond in the picture is managed and will not pose a risk to the new parking area).

Figure 4 Resiliency of New Parking Location following Jonas storm (Jan. 2016)

3.1 Transportation Issues and Project Elements

Elements of this project aim to solve three transportation issues in the Town of Chincoteague and at the CNWR:

1. Safety and accessibility issues along Maddox Boulevard
2. Congestion at the entrance to the CNWR
3. Resiliency of the parking lot at the recreational beach

1. Safety and accessibility issues along Maddox Boulevard

In its planning process for the "Town of Chincoteague Comprehensive Plan," the town conducted a questionnaire of its citizens. The results overwhelmingly supported safety and accessibility enhancements along Maddox Boulevard. Questions 8 and 11, in particular, show the support that led to including these facilities in the plan.

Question 11: Pedestrian and bicycle facilities on Maddox Boulevard should be improved.

Agree	Disagree	Undecided	Marked "N/A"	Left Blank
86%	8%	5%	0%	2%

Question 18: The Town should increase the number of pedestrian trails and bikeways throughout the community.

Agree	Disagree	Undecided	Marked "N/A"	Left Blank
90%	3%	5%	0%	2%

In their responses, many citizens wrote that improved bicycle and pedestrian facilities would be a great asset to the community as they would reduce vehicular congestion and pollution while improving safety. It is expected that bike and pedestrian facilities would be heavily used by tourists and locals alike. Many respondents also agreed these improvements would really help the tourism industry on the island.

To address these concerns, this project will complete the bicycle and pedestrian facility gaps along Maddox Boulevard from Main Street to the new parking lot adjacent to the recreational beach, as shown in the conceptual map in Figure 2. The Town and FWS have already worked to complete needed improvements (approximately $2 million for bike lane) on the causeway bridge from the Town to the refuge. Realizing additional funds now with a TIGER award will allow the entire system to be completed.

2. Congestion at the entrance to the CNWR

The CNWR has three fee collection booths at the entrance to the Refuge. During busy days, the fee collectors simply cannot collect fees fast enough and congestion builds up along the causeway leading into the Refuge and into the Town of Chincoteague. This causes several problems. First, the back-up of vehicles along the causeway causes a safety problem as emergency vehicles have a difficult time accessing the Refuge in the event of an emergency. Secondly, idling vehicles produce much more polluting emissions than they would if able to enter the Refuge more quickly. Lastly, this creates a bad experience for all visitors with limited time to visit the Refuge or recreational beach.

This project aims to address these issues by increasing capacity at the fee collection booths and diversifying mode share. Additional fee collection booths and a reconfiguration of the refuge entry point will improve efficiency and drastically reduce congestion. With the current three fee collection booths, visitors have had to wait as long as 20-25 minutest to enter the Refuge. With additional booths, the Refuge expects to cut this wait time in half.

Also, the enhanced bicycle and pedestrian facilities will cause a mode shift from private vehicle to more active modes of transportation. Even a modest shift from vehicles to other modes will provide demand benefits. Detailed traffic analyses as part of the project development will be used to determine operational improvements.

3. Resiliency of the parking lot at the recreational beach

The most impactful part of this project addresses the issues with the existing parking location. As explained above, the current beach parking location cannot be sustained into the future with frequent over-washing and breaching of the barrier island. Seashore erosion, sea-level rise, and strong weather events are damaging or destroying the parking lot with ever-increasing frequency. The FWS and the NPS are in agreement that the repetitive expenditure of significant federal funds at this location is both unwise and unsustainable.

These concerns have been analyzed for several years among all partners and the community; and, through the Comprehensive Conservation Planning process, the Refuge has decided to

relocate the parking facilities to a potential new location described in section 3.0. The new location is at a higher elevation above mean sea level (relative to the existing parking lot) and behind a man-made dune, allowing added protection from the sea and weather events.

In addition to a more secure location, design of the new facilities will include study of the coastal geomorphology and include additional measures to protect the new facilities (e.g. ditches, dunes, impoundments), if necessary.

Design of the facilities will be consistent with the FWS's Roadway Design Guidelines, completed in 2012.[2] The guidelines include a checklist to ensure that any transportation facility built on a Refuge includes consideration of landscape ecology, planning context, design and engineering, organism passage, stormwater management, and visitor experience. It includes metrics to measure the degree to which a project meets the objectives and resources to find additional information.

3.2 Frequency of Storms and Repair Costs

The existing parking lot on the beach is maintained by the National Park Service's Assateague Island National Seashore (ASIS). ASIS provides approximately $416,000 in *regular annual maintenance* to the parking facilities at the current recreational beach. Table 1 shows a sampling of storms that have caused the need for repair to the parking lot at the recreational beach *above and beyond* the typical annual repairs. Over the 13 year period of data available, ASIS has paid an average of $357,363 (2016 dollars) annually just for storm recovery. Together this is a total yearly average of $740,147. This project aims to at least cut that annual maintenance number in half.

Table 1 Storms and Parking Lot Repair Costs, 2003 - 2016

Month/Year	Type of Storm	Storm Effects	Repair Costs
Jan. 03	Northeaster	Shoreline erosion, overwash, damage to parking lots	$ 157,700
Sept. 03	Hurricane Isabel	Extensive damage to facilities and infrastructure	$ 477,400
Aug. 06 / Oct. 06	Hurricane Ernesto / Coastal Storm	Shoreline erosion, overwash, damage to parking lots	$ 746,200
Sept. 08	Hurricane Hanna	Shoreline erosion, overwash, damage to parking lots	$ 196,900
Nov. 09	Northeaster	Damage to facilities and parking infrastructure	$ 343,800
Aug. 11	Hurricane Irene	Damage to facilities and parking infrastructure	$ 724,100
Nov. 12	Hurricane Sandy	Damage to facilities and parking infrastructure	$ 767,809
Feb. 2016	Winter storm Jonas	Damage to facilities and parking infrastructure	$ 800,000
13 Year Average			**$ 324,147**

[2] http://flh.fhwa.dot.gov/programs/flpp/lrtp/documents/fws-rdg.pdf

3.3 Current Access and Visitation to Refuge

The recreational beach at the CNWR is the most visited beach, and one of the largest economic drivers, in Accomack County. Assateague Island and Chincoteague are often cited as a top tourist destination in the Commonwealth of Virginia. It has received over a million visitors every year for at least the past six years (figure 5). Visitation to the refuge is also in the top 10 nationally across all FWS national wildlife refuges.

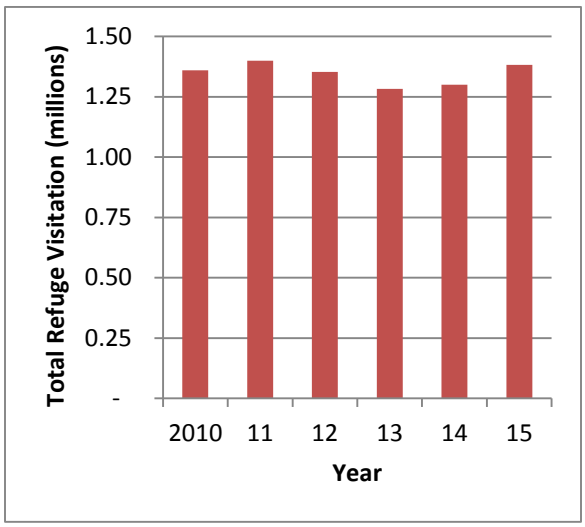


Figure 5 Total CNWR Visitation, 2010 – 2015
Source: FWS Refuge Annual Performance Plan

Peak visitation is very seasonal, with as much as 10 times as many visitors going in summer months compared to winter months. Table 2 shows transportation modes for visitor access over the past 5 years. Clearly the vehicle is the preferred mode choice, showing the strenuous demand on the road and parking facilities leading into the Refuge.

Table 2 Average Access by Transportation Mode by Month, 2011 - 2015

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Vehicle count	8,370	7,569	12,262	21,239	34,082	52,156	86,444	76,943	39,428	20,416	14,600	9,195
Bicycle count	385	346	696	1,228	5,337	7,576	21,195	18,711	5,799	2,963	2,091	427
Foot count	107	105	106	183	598	840	1,410	1,342	807	501	399	232

Source: Chincoteague National Wildlife Refuge vehicle, bike, and pedestrian counters (automated transportation systems)

3.4 Demographic Analysis

Given the nature of this project, the transportation facilities don't provide physical access to jobs, but rather provide for the basis of the local tourism economy to continue to thrive. Without access to the beach and sustainable facilities to support that access, there would be a great reduction in visitation to the Town of Chincoteague and many of the businesses and services on the island would suffer.

This project is consistent with the U.S. DOT's "Ladders of Opportunity" Initiative which prioritizes investment in "transportation projects that better connect communities to centers of employment, education, and services, and that hold promise to stimulate long term job growth, especially in economically distressed areas."[3]

This access project is intended to maintain and improve a vibrant community for locals and visitors alike and ensure a continued and stable opportunity to enjoy the benefits of visiting a National Wildlife Refuge and recreational beach. There simply is not a similar opportunity in the county for people to enjoy the shoreline in the same way.

Access to these "quality of life" and economic opportunities is particularly important in Accomack County as the local communities are relatively disadvantaged. Table 3 shows select demographic data pulled from the U.S. Census Bureau's American Community Survey 5 year estimates from 2009 – 2014. The county has relatively large older populations with the percentage of people age 65 and older more than 50% larger than the national and state percentages. Accomack County has a relatively large racial minority population with 31.4% of residents who don't consider themselves "white alone." The county is economically disadvantaged with a lower median household income ($39,389), higher poverty rate (20%), and higher unemployment rate (7.5%), compared to Virginia. Lastly, the county has a higher percentage of residents disabled compared to the state.

[3] https://www.transportation.gov/policy-initiatives/tiger/ladders-opportunity-through-tiger

Table 3 Select Economic and Demographic Data Representing Disadvantaged Groups per "Ladders of Opportunity" Initiative

Categories	Accomack County	Virginia	United States
Total population	33,165	8,185,131	314,107,084
Age			
Selected age categories			
5 to 14 years	11.6%	12.7%	13.1%
15 to 17 years	3.3%	3.8%	4.0%
18 to 24 years	7.3%	10.0%	10.0%
15 to 44 years	32.4%	41.2%	40.4%
60 years and over	27.5%	18.7%	19.5%
62 years and over	24.0%	16.3%	17.1%
65 years and over	20.0%	13.0%	13.7%
75 years and over	8.5%	5.5%	6.1%
Race			
One race			
White alone	68.6%	69.3%	73.8%
Black or African American alone	28.6%	19.3%	12.6%
American Indian and Alaska Native alone	0.3%	0.3%	0.8%
Asian alone	0.1%	5.8%	5.0%
Native Hawaiian and other Pacific Islander alone	0.0%	0.1%	0.2%
Some other race alone	0.9%	2.2%	4.7%
Two or more races	1.5%	3.1%	2.9%
Percent not White alone	31.4%	30.7%	26.2%
Income / Poverty / Unemployment			
Median household income ($)	39,389	64,792	53,482
Percent of population in poverty	20.5%	11.5%	15.6%
Population 16 years and over unemployed	7.5%	6.9%	9.2%
Disabled			
Total civilian, non-institutionalized population Disabled	12.1%	11.0%	12.3%

Source: U.S. Census, American Community Survey 5 year estimates, 2009 – 2014

This project provides for economic sustainability and community revitalization, and provides a Ladder of Opportunity for the local community to achieve employment and receive the quality of life services they deserve.

4.0 Project Parties

This project requires collaboration from several organizations, with elements of the project located in the Town of Chincoteague and on FWS- and NPS-managed lands. The following list summarizes each party's responsibility in the project development:

- **Accomack County**: engage in planning/design process; apply for TIGER Grant
- **Accomack – Northampton Planning District Commission:** under contract by Accomack County, administration of TIGER Grant
- **Town of Chincoteague**: engage in planning/design process; design, procurement and construction of new pedestrian/bicycle facilities along Maddox Boulevard (in partnership with Virginia DOT)
- **U.S. Fish and Wildlife Service**: engage in planning/design process; contribute funds as available
- **National Park Service**: engage in planning/design process; contribute funds as available
- **Federal Highway Administration – Eastern Federal Lands Highway Division**: co-lead with FWS implementation activities including NEPA compliance, engineering, and procurement and construction oversight of future facilities

Accomack County is governed by a nine member elected Board of Supervisors. The County's top administrative official is the County Administrator. The county frequently partners with the (A-NPDC) to apply for and administer grants. The (A-NPDC) is a regional agency that serves both Accomack and Northampton Counties. A-NPDC staff are well qualified and familiar with state and federal grants and compliance requirements. The A – NPDC serves as a liaison between Virginia Department of Transportation (VDOT) and Accomack and Northampton Counties. VDOT funds the A-NPDC to administer and run several programs.

As an incorporated town, Chincoteague has its own Town Council made up of 6 elected officials and an elected mayor. The town's chief administrative official is the Town Manager.

To harness the viewpoints of all stakeholders and better organize that input, Accomack County and the FWS has entered into a Memorandum of Understanding with the Town of Chincoteague and other stakeholder groups. The MOU was signed in April 2016. This mechanism will ensure all parties are connected and engaged as cooperating agencies in the associated NEPA process as the project development process begins in 2016. A copy of the MOU is included as Appendix I.

4.1 Maintenance Responsibility of Facilities

After construction is complete, the ongoing maintenance of the new facilities will be as follows:

- Town of Chincoteague: maintain new bicycle and pedestrian facility in town
- Fish and Wildlife Service: maintain fee booths, road, and bicycle facilities on the Refuge property (excluding new parking lot)
- National Park Service: maintain parking and visitor service facilities at access to recreational beach (excluding roads and bike paths leading to parking lot)

5.0 Grant Funds and Sources/Uses of Project Funds

5.1 Cost Estimates and Additional Funding Sources

The FWS has over the life of its participation in the Federal Lands Transportation Program (since 1998) prioritized transportation improvements at CNWR. This is reflective of the high visitation rate compared to other refuges nationally and that CNWR is the most visited refuge in the FWS' Northeast Region. Previous investments have included paving the auto tour route, providing the transportation infrastructure around the new visitor's center, and paving and repairing the existing beach access road. In addition, the FWS has worked with partners to secure Transit in the Parks and Public Lands Highway Discretionary funding in the past to provide for bicycle improvements along the causeway bridge from the Town to the CNWR. All of these improvements have created new access or bettered existing assets. But the bigger issue of sustainable parking areas and improved beach access have lingered. This TIGER grant opportunity will allow the FWS and all stakeholders to realize a completed transportation network that will stand for future generations.

Table 4 represents the cost estimates for the entire proposed project, broken out into two elements: the facilities on CNWR property and the bicycle and pedestrian facilities along Maddox Boulevard. Because facilities in the town will be implemented and managed differently than the facilities on the Refuge, it is important to consider each as a separate component to an overall multi-modal transportation project. Cost estimates for facilities on CNWR were provided by the FHWA Eastern Federal Lands Highway Division. Cost estimates for facilities along Maddox Boulevard were taken from the 2016 Virginia DOT STIP.

Table 4 Project Cost Estimates

Facilities on CNWR		**Cost Estimate**
Preliminary Engineering including NEPA EA	$	500,000
Final Design	$	700,000
Construction Engineering	$	800,000
Construction Estimate	$	8,000,000
10% Contingency	$	1,000,000
Total	**$**	**11,000,000**
Facilities along Maddox Blvd		
Preliminary Engineering including NEPA EA	$	256,000
Construction Engineering	$	290,000
Construction Estimate	$	1,923,000
Other Costs	$	96,000
Total	**$**	**2,565,000**
Facilities Sub-total	**$**	**13,565,000**
Grant Administration (5% of Facilities)	**$**	**678,250**
Total	**$**	**14,243,250**

Some federal funding sources have already been identified to complete certain aspects of the project. These are not sufficient to provide for all of the needed improvements. They are described below:

- Hurricane Sandy Recovery funds: the CNWR is receiving $2.4 million dollars from the FWS's regional recovery after Hurricane Sandy in 2012. Of this, $1.2 million have been used by FWS to partner with FHWA Eastern Federal Lands Highway Division to begin the NEPA and design processes for the facilities on Refuge property. The remaining Sandy funds will be used to supplement the design process as needed and/or construct a phase 1 of the project.[4] These funds must be obligated by December 2019.
- The National Park Service has committed $333,000 per year, in fiscal years 2016, 2017 and 2018, for a total of approximately $1 million to help fund the project. These funds will go toward planning, design and construction, as needed.
- Paul S. Sarbanes Transit in Parks (TRIP) Grant: in 2012 the FWS was awarded a grant for the purchase of lands in the Town of Chincoteague for a park and ride lot to provide transit access to the Refuge. Since, the property has been sold to another entity, so the town and the Refuge have received approval by the Federal Transit Administration (FTA) to re-purpose the money to have it applied to the bicycle facilities along Maddox Boulevard. The funds must be obligated by 1/1/2017, but have the potential for an extension.

Table 5 shows the total costs, the committed funding, and the difference between the two. The difference is the amount requested for the TIGER Grant, $9.343 million.

Table 5 Project Cost Estimates, Committed Funding and Sources, and Grant Request Amount

Facilities	Estimated Costs	Committed Funding	Committed Funding Source	TIGER Amount Requested
Maddox Boulevard	$ 2,565,000	$ 1,500,000	Transit in Parks Grant Awarded to Town of Chincoteague	$ 1,065,000
		$ 1,000,000	NPS Funds	
On Refuge	$ 11,000,000	$ 2,400,000	FWS Sandy Recovery Funds	$ 7,600,000
Administration	$ 678,250	$ -		$ 678,250
Total	**$ 14,243,250**	**$ 4,900,000**		**$ 9,343,250**

This project size is large enough to be beyond the means of the national FWS Federal Lands Transportation Program funding. With these figures representing the largest amount each of the partners are able to contribute to the project, there is still a substantial gap in funding to be able to provide these multi-modal improvements to access the Refuge.

[4] It is possible that the FWS may need to use some of the Sandy Recover Funds for additional resiliency projects that are outside of the scope of this TIGER application, but related to the overall resiliency of the transportation facilities (e.g. water control devices, ditches, etc.).

5.2 Expected Timeline

With the signing of the CNWR CCP/EIS and the corresponding Record of Decision, the FWS, working with its partners through the recently signed MOU, are initiating the project development process. While many details still needed to be ironed out through that process, the direction of moving the recreational beach and providing new and improved access is strong.

The following is a preliminary schedule (and subject to change with availability of funds) for the project:

- January 2016 – November 2018: Alternatives and NEPA
- January 2016 – November 2018: Preliminary Engineering
- December 2018 – April 2019: Final Design
- December 2018 – April 2019: Permitting
- May 2019 - August 2019: Acquisition (as needed)
- October 2019 – October 2020: Construction

As mentioned in section 5.1, preliminary engineering (including evaluating alternatives and NEPA compliance) and final design have already been funded by the FWS Sandy Recover Funds.

5.3 Why TIGER Opposed to Other Funding Sources?

Funding for transportation projects on National Wildlife Refuges is extremely limited, and while the FWS recognizes that the project will save federal funds in the long-term, the FWS simply does not have the funding to complete such a large, transformative project. Similarly, Accomack County and the Town of Chincoteague have responsibilities to work on infrastructure within their own boundaries and have not been able to commit sufficient funds to a project in the Town that would connect to the CNWR.

It has become apparent that discretionary federal funding will be the only way to fund a project of this magnitude. Accomack County and the Accomack – Northampton Planning District Commission are eager to contribute staff time toward the preparation and administration of grant(s) for the project and will continue to provide assistance, but are, unfortunately, unable to provide any significant budgetary funding at this time.

Furthermore, the project does not qualify for other competitive federal transportation funding opportunities. It is too small to reach the $25 million minimum required for the (not yet funded) “National and Regionally Significant Federal Lands and Tribal projects.” In addition, the project type does not match well with the criteria of the FASTLANE Grant opportunity.

6.0 Selection Criteria

6.1 Primary Selection Criteria

6.1.1 State of Good Repair

Maintaining a state of good repair is a core component of this project and is of utmost importance to all of the partners involved. The two main components of this project will have different maintenance procedures and, therefore, will be addressed separately in this section.

First, the main purpose of relocating the recreational beach, and associated access facilities, is to make them more resilient against increasingly frequent intense weather events, sea-level rise, and shoreline erosion. Without intervention, the parking facilities will most certainly continue to be frequently destroyed. According to the "Recreational Beach Structured Decision making Process, Locating the Best Site for a Recreational Beach and Parking Lot," a study conducted by the FWS, the current recreational beach location is in the most vulnerable and dynamic coastal area within the Refuge. Although all areas on Assateague Island are highly vulnerable to sea-level rise and strong coastal weather events, as shown in figure 6, the new location has seen the least change in the shoreline position within the study area since the second half of the twentieth century.

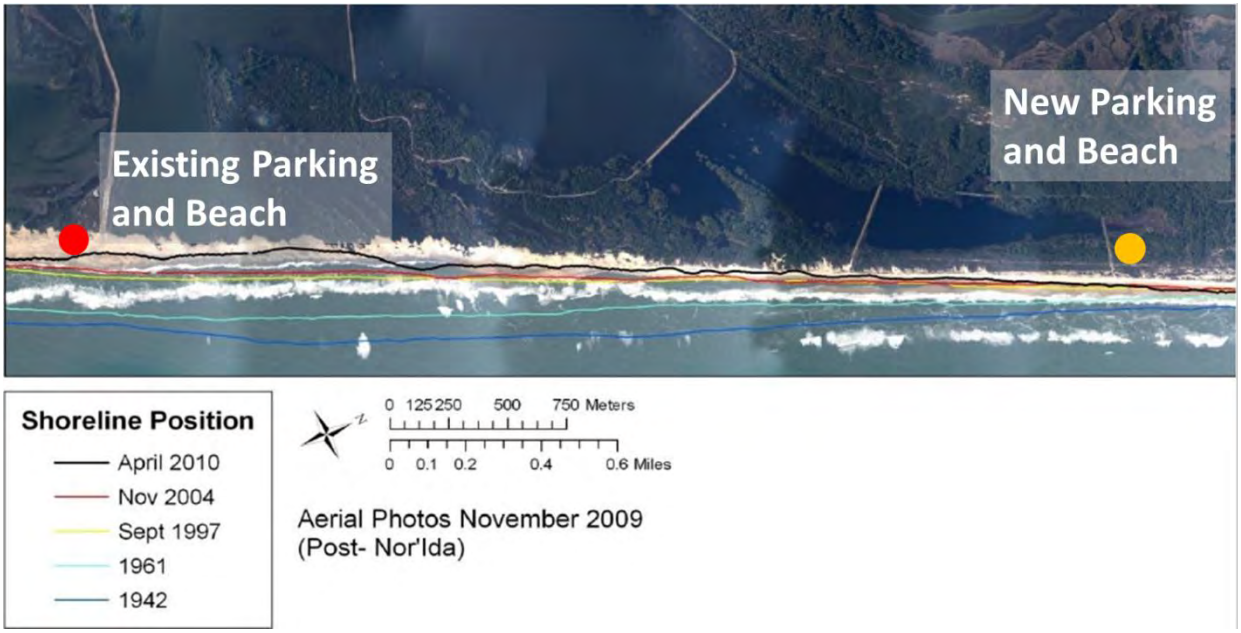


Figure 6 Historic Shoreline Position, 1942-2010
Source: Recreational Beach Structured Decision making Process, Locating the Best Site for a Recreational Beach and Parking Lot, 2014

Furthermore, maintaining a state of good repair is a national priority for the FWS and this project makes progress toward the Service's National LRTP Asset Management Goal. The plan states that the transportation program "will operate and maintain a functional, financially sustainable and resilient transportation network to satisfy current and future land management needs in the face of a changing climate" (U.S. Fish and Wildlife Service, 2016).

This project ranks highly among others for the Service' Transportation Program due to the degree to which it meets the following project selection criteria and helps the Service reach its Asset Management objectives:

- "Project will bring an asset with a current condition rating of Fair, Poor, or Failed to a condition of Good or Excellent, or improves an identified deficiency
- Project takes into account vulnerability to changing weather patterns and natural disasters
- Project improves an identified deficiency
- Project incorporates cost-savings plan for operations and maintenance to reduce long term costs"

In addition to creating a more physically resilient transportation facility when compared to the existing parking lot, maintenance of the new parking area, once built, will be lower compared to the existing parking lot due to the more secure location. Responsibility of maintaining the parking lot will continue to be with the Assateague Island National Seashore, paid for out of their parking fee collections, and is expected to be approximately half of the current maintenance cost.

Maintenance of the fee booth upgrades and access road will be the responsibility of the FWS and is expected to closely match the existing cost.

The second element of this project are the pedestrian and bike facilities along Maddox Boulevard. The Town of Chincoteague currently maintains Maddox Boulevard within its boundary and has recently completed bicycle facilities between the traffic circle at Woodland Drive and the entrance to the Refuge. The Town of Chincoteague will continue to maintain the corridor and is prepared to fund maintenance of the new facilities out of the same transportation maintenance budget that it currently uses.

6.1.2 Economic Competitiveness

The tourism industry in the Town of Chincoteague is seasonal, providing jobs in the summer months. Although the efforts to improve 'off season' tourism are making headway, the local economy dips significantly in the winter months.

Without the economic generation created by the tourism industry and beach visitation, the county of Accomack would have increased year-round unemployment, Table 6 shows that as a percentage of the total amount Virginia pays out in unemployment insurance, the portion paid to Accomack County is more than twice as large in winter months than it is in summer months. If unemployment in the county were to remain at its winter levels throughout the year, the Commonwealth of Virginia would have to pay out an approximate increase of $1.05 million dollars of unemployment benefits annually.

Table 6 Unemployment Insurance Payments by Month, 2015 - 2016

	Accomack County		Virginia		Accomack as a Percent of Virginia Total Amount Paid
	Number of Weeks Paid	Amount Paid Monthly	Number of Weeks Paid	Amount Paid Monthly	
Feb. 2015	878	$178,455	131,377	$37,857,657	0.47%
Mar. 2015	747	$158,093	148,614	$43,288,405	0.37%
Apr. 2015	314	$67,045	103,605	$30,399,717	0.22%
May 2015	237	$52,069	95,303	$27,960,737	0.19%
Jun. 2015	256	$63,718	119,837	$34,597,061	0.18%
Jul. 2015	231	$60,160	104,901	$30,135,402	0.20%
Aug. 2015	298	$75,194	113,783	$33,126,995	0.23%
Sep. 2015	202	$49,295	90,254	$27,056,818	0.18%
Oct. 2015	199	$52,581	86,235	$25,959,114	0.20%
Nov. 2015	351	$77,627	100,537	$30,148,966	0.26%
Dec. 2015	574	$120,130	104,030	$30,759,228	0.39%
Jan. 2016	631	$130,266	112,944	$32,977,566	0.40%
Feb. 2016	938	$194,416	143,184	$42,572,243	0.46%

Source: Virginia Employment Commission

Furthermore, sales tax revenue in Accomack County is highly dependent upon the summer tourism industry (this is just one of many taxes that could be shown to illustrate the vulnerability of the tourism based economy). As shown in Table 7, Local Option Sales Tax in the county differs by $172,916 between the lowest and highest months in 2015, a growth of 68% between February and July. Accomack County is more dependent on summer tourism than Virginia as a whole. The percentage of total Local Option Sales Tax revenue (as a portion of Virginia total) generated in Accomack County is about 50% larger in summer months than it is in winter months. The county could stand to lose approximately $1.2 million dollars annually in Local Option Sales Tax revenue if access to the beach at Chincoteague National Wildlife Refuge, and the associated economic generation that comes with it, is not provided.

Table 7 Local Option Sales Tax Revenue by Month, 2014 - 2015

		Accomack County	Virginia	Accomack as a Percent of Virginia Total
Dec.	**2014**	$355,484	$111,706,364	0.32%
Jan.	**2015**	$263,888	$83,115,661	0.32%
Feb.	**2015**	$253,317	$82,043,204	0.31%
Mar.	**2015**	$352,871	$98,055,674	0.36%
Apr.	**2015**	$296,053	$97,102,804	0.30%
May	**2015**	$351,649	$100,527,553	0.35%
Jun.	**2015**	$263,888	$83,115,661	0.32%
Jul.	**2015**	$426,233	$98,165,027	0.43%
Aug.	**2015**	$408,540	$97,815,827	0.42%
Sep.	**2015**	$359,279	$100,643,142	0.36%
Oct.	**2015**	$299,239	$103,779,216	0.29%
Nov.	**2015**	$273,197	$95,879,771	0.28%
Dec.	**2015**	$332,331	$119,052,844	0.28%

Source: Virginia Employment Commission

Lastly, the FWS conducted an extensive study to understand the economic impact of Refuge visitation. The "Chincoteague National Wildlife Refuge Economic Analysis in Support of Comprehensive Conservation Plan" shows that an assumed reduction in parking under a "no-action" alternative would result in a huge economic impact on the region.

The study takes into consideration many factors, including Lodging and Food Excise Tax revenues and sales. It assumes that, given the rate of sea-level rise and coastal erosion in the existing parking area, the Refuge could see a reduction of 561 parking spaces over 15 years if no action were to be taken. *Under this scenario, the study shows an economic loss of $38.4 million dollars from Memorial Day to Labor Day annually, the busiest season of the year* (Division of Economics U.S. Fish and Wildlife Service, 2013).

6.1.3 Quality of Life

Improving quality of life and economic stability are the main goals of this multi-modal transportation project. The local community and visiting tourists alike are extremely passionate about access to the recreational beach within the CNWR. It is unique in the region given it is easily accessible; natural and serene; and, undeveloped, relative to neighboring beach towns like Virginia Beach and Ocean City. The beach at CNWR has, for generations, provided incredible recreation opportunities, a quality of life service that this community cherishes and cannot be easily duplicated.

Furthermore, the recreational beach is the base of the local economy, and a large component of the regional economy. Visiting tourists dine in local restaurants, stay in local hotels, and shop at local stores. If the FWS/NPS lose their ability to maintain the current facilities, the local economy would be significantly hurt and employment opportunities would be greatly reduced, making financial growth ever more difficult for an already relatively disadvantaged community.

Funding this project through the TIGER Grant would show the DOT's commitment to working toward the six "Livability Principles" it developed in partnership with the Department of Housing and Urban Development (HUD) and the Environmental Protection Agency (EPA) as part of the Partnership for Sustainable Communities. As explained throughout this project narrative, the elements of this project specifically addresses these three:

> 1. Provide more transportation choices:
>
> Develop safe, reliable and economical transportation choices to decrease household transportation costs, reduce our nation's dependence on foreign oil, improve air quality, reduce greenhouse gas emissions and promote public health.
>
> 4. Support existing communities:
>
> Target Federal funding toward existing communities—through such strategies as transit-oriented, mixed-use development and land recycling—to increase community revitalization, improve the efficiency of public works investments, and safeguard rural landscapes.
>
> 6. Value communities and neighborhoods:
>
> Enhance the unique characteristics of all communities by investing in healthy, safe and walkable neighborhoods—rural, urban or suburban."

6.1.4 Environmental Sustainability

Through its Comprehensive Conservation Plan process, the FWS has an approved EIS and Record of Decision which analyzed the impacts of moving the recreational beach, and concluded there will be a net-benefit to the environment. Before the beach relocation takes place a more detailed analysis will be conducted through a step-down NEPA process to ensure that project-level impacts will be considered and mitigated appropriately.

This location was selected because of stability, but also because the area has already been modified in the past. The habitat is largely manmade (the dunes and impoundments), so the area has historically seen a large amount of disturbance, thus lessening its wildlife habitat value for some species.

Furthermore, the (approximately) 0.75 mile shorter distance from the entrance to the new parking area will result in fewer vehicle miles driven (1.5 miles per round-trip) and an associated reduction in emissions. Using the 2015 vehicle access numbers (400,539), this would result in 600,808 fewer miles driven annually and an associated reduction of 246.932 metric tons of CO2 (among other emissions).[5]

In addition to the environmental benefits explained above, it should be noted that this project is also addressing environmental resilience and sustainability of infrastructure in an area of increasingly damaging storms and erosion. Due to natural factors outside of anyone's control, erosion and sea level rise make imperative the relocation of the beach access facilities.

6.1.5 Safety

While safety enhancements are not the primary motivation for this project, there will certainly be enhanced safety measures taken into consideration.

Most importantly, the enhanced bicycle facilities will drastically improve the safety, and ultimately the attractiveness of accessing the Refuge by bike. The new bike facilities will make bikes more visible and remove them from general traffic.

There is an additional safety concern identified when vehicles are waiting on the causeway to access the Refuge. When this happens, it is difficult for emergency vehicles to access the Refuge in the event of an emergency. The enhanced bicycle access facilities and fee booth capacity are intended to lessen congestion. It is expected that reduced congestion will lower the safety concern on the causeway, and allow emergency vehicles to more easily reach the recreational beach. Redesign of the entrance features as part of the this project will also help facilitate movements onto the refuge and then to the beach; the new traffic engineering brought to bear through this new project will also consider greatly the aspect of emergency services and response times.

[5] Calculations included in the attached Benefit-Cost Analysis

6.2 Secondary Selection Criteria

6.2.1 Innovation

This project is primarily innovative in the way that all of the partners are coming together to plan, design, and implement a transportation project on a National Wildlife Refuge. Rarely is there a situation where the Federal Lands agencies, FHWA, and local communities can work together on a long-term solution to access America's treasures. With the adequate funding received through this grant, the creative and innovative forces of all these parties will help generate the multi-modal and resiliency improvements that will live on for generations. This project could be used as a model for other communities near federal lands to partner up and achieve transportation improvements that benefit everybody.

Furthermore, the FWS is proactive in responding to the increasingly important topic of climate change adaptive management. Among the first of its kind for the FWS, this project is addressing climate change head on and will be consistent with the "U.S. Department of Transportation Climate Adaptation Plan 2014: Ensuring Transportation Infrastructure and System Resilience."[6]

6.2.2 Partnerships

Implementation of this project will take a collaborative effort between several governmental agencies and the public. Since the original Comprehensive Conservation Planning and local transportation planning that resulted in the decision to relocate the recreational beach and include bike/pedestrian facilities along Maddox Boulevard, all of the partners and the community have been at the table. These efforts have included questionnaires, federal registration for public review and comments, and meetings among stakeholders.

This project is still in its preliminary design stages, and all partners and the community will continue to be involved through the step-down NEPA planning process as the project is developed. A memorandum of understanding has already been signed between Accomack County, the FWS, the Town of Chincoteague, and other stakeholder groups to agree to work together toward the same goal of providing the best possible visitor experience, which includes multi-modal recreational beach access to sustain the local economy.

[6] https://www.transportation.gov/sites/dot.gov/files/docs/2014-%20DOT-Climate-Adaptation-Plan.pdf

7.0 Results of Benefit-Cost Analysis

The county conducted a benefit-cost analysis (BCA) to understand if there is a positive return on dollars invested in this project over a 20 year timeline. Table 8 summarizes the results. For the full analysis, please see Attachment 1 – Benefit Cost Analysis.

This project is intended to replace/relocate a current parking facility that is in serious danger of being demolished by the sea. Therefore, there are minimal differences between the current parking lot and the proposed parking lot. The main differences are that the new location is approximately 0.75 miles closer to the entrance of the Refuge; there will be increased capacity for fee payment at the entrance; and, there will be improved bicycle access. These differences yield the following benefits:

- Reduced vehicle miles traveled (VMT)
- Reduced congestion
- Reduced travel time
- Reduced visitor vehicle emissions
- Reduced storm repair costs

Benefits are represented as the monetized value of the improvements listed above, compared to the baseline (current operations). For example, the benefit of reduction of emissions is the total annual monetized value of reduced emissions for all vehicles with the new parking facility versus the old parking facility.

The only cost calculated into this BCA is the initial cost estimate of construction to occur in 2019-2020. It is expected that regular maintenance (not storm recovery) will be the same for the new parking location, and therefore was omitted from the analysis.

This BCA follows the guidelines included in the TIGER BCA Resource Guide provided by the U.S. Department of Transportation. That is to say, it uses the recommended monetized values and discounts to the present value for both a 3% and 7% discount rate.

Table 8 shows that under a 3% discount rate, the project returns a benefit/cost ratio of 2.187; and, under a 7% discount rate, it returns a benefit/cost ratio of 1.282 over the 20 year life of the project.

Table 8 Results of Benefit-Cost Analysis

	3% Discount Rate	7% Discount Rate
NPV of Benefits	$ 31,147,836	$ 18,264,034
NPV of Costs	$ 14,243,250	$ 14,243,250
NPV of Net Benefit	$ 16,904,586	$ 4,020,784
Benefit/Cost Ratio	2.187	1.282

While this BCA quantifies only a few variables, there are many more that cannot be quantified, and would ultimately increase the benefit/cost ratio. For example, the large amount of emissions produced by the incredible maintenance effort undergone after each storm is not included in this analysis. Furthermore, the reduced emissions and travel time associated with

the improved capacity at the fee booths is not included. Lastly, the safety benefits of the improved bicycle and pedestrian facilities along Maddox Boulevard are not calculated into this BCA.

As mentioned, this BCA compares the project to the baseline of continuing current operations. Unfortunately, that may not be the reality of the situation moving forward. If not for this project, the Refuge and the National Park Service may not be able to continue to repair the parking area after each storm. If this were to be the case, the economic cost to the county, and especially to the Town of Chincoteague, would be astronomical as previously noted in the grant submittal.

8.0 Project Readiness

Support for this project has continued to grow and all of the involved partners are now ready to begin a formal detailed alternatives/design process and work toward implementation (MOU in Appendix I). Some of the elements of "project readiness" have already been worked on to some extent. The remaining work has yet to be completed, but is included in the preliminary Scope of Work, as provided by the FHWA, and is already funded through the preliminary engineering phase as mention in section 5.1.

An Environmental Impact Statement (EIS) was completed on a refuge-level during the CCP process. The EIS analyzed the relocation of the recreational beach and parking area to the new location and found it to be environmentally sound. As mentioned previously, a step down NEPA process will analyze project-level impacts and address any need for minimization and/or mitigation.

Local planning efforts also recommend elements of this project. The bicycle and pedestrian facilities along Maddox Boulevard are included in the Town of Chincoteague's "2010 Comprehensive Plan," Accomack County's 2014 "Eastern Shore of Virginia Bicycle Plan," the Town's "Chincoteague 2020 Transportation Plan" written in 2002, and the 2016 Virginia Department of Transportation's "Six-Year Transportation Improvement Plan."

Lastly, the FHWA will submit a Tidewater Joint Permit Application on behalf of all of the project partners to receive project permits from the following organizations:

- Accomack County Wetlands Board
- Virginia Depart of Environmental Quality
- Virginia Marine Resources Commission
- United States Army Corps of Engineers

Committed funding has already been allocated to planning, design, NEPA compliance and engineering, and the FWS has already contracted FHWA to begin working with all of the partners and the community to design facilities that meet the highest standards.

The proposed timeline shows that adequate time will be allowed for inclusive planning processes and that design decisions will be made collectively among all of the partners and stakeholders. Together, all of the partners will continue to work toward funding construction, but the TIGER opportunity is incredibly fitting and timely, as the most recent winter storm, Jonas, has shown that the current parking facility is simply too vulnerable to continue to maintain.

9.0 Bibliography

Division of Economics U.S. Fish and Wildlife Service. (2013). *Chincoteague National Wildlife Refuge Economic Analysis.* Arlington. Retrieved from http://www.fws.gov/uploadedFiles/Appendix%20M_CHN%20Draft%20CCPEIS.pdf

U.S. Fish and Wildlife Service. (2016). *National Long Range Transportation Plan.*

Virginia Employment Commission. (Updated 2016). *Accomack County Community Profile.* Richmond, VA.

APPENDIX V FLAP APPLICATION FOR FARMER'S BRIDGE REHABILITATION NEAR CIBOLAR NWR, ARIZONA

Arizona Federal Lands Access Program: Proposed Project Application

GENERAL INFORMATION

Project Points of Contact (POC):

	Applying Agency	Federal Land Management Agency(s)	
Agency Name:	La Paz County	US Fish and Wildlife Service	Bureau of Land Management
POC Name:	Kenneth MacFarland	Curt Kessler	John MacDonald
POC Title:	Community Resources Director		
Address Line 1:	1112 Joshua	66600 Cibola Lake Road, Box 1	7341 E. 30th Street
Address Line 2:	Parker, AZ 85344	Cibola, AZ 85328	Yuma, Arizona 85365
E-mail:	Kmacfarland@co.la-paz.az.us	curt_kessler@fws.gov	jmacdona@blm.gov
Phone #:	(928)669-6141	(928)857-3253	(928)317-3200
Additional Key Project Stakeholders:	Imperial County California		

Project Identification:

Project Title: Farmer's Bridge Rehabilitation

Facility Name: Farmer's Bridge

Local/FLMA Route, Name, or Designation: Farmer's Bridge

Other Facility Name / Designation (if any):

Federal Land Management Agency (FLMA) Accessed:

Name(s) of FLMA	Site(s) or Major Destination(s) Accessed	Distance from Project (miles)	Current Annual Visitation (Estimate)
US Fish and Wildlife Service	Cibola National Wildlife Refuge	3.7	45,000
Bureau of Land Management	Oxbow Campground	5	3,500

	Termini Start	Termini End
Landmark, Milepost, Cross Roads:	River Road, Levee Road	River Road, Levee Road
Latitude Coordinates: *(Degrees Minutes Seconds format; to 6 decimals)*	33.413524 N	33.412560 N
Longitude Coordinates: *(Degrees Minutes Seconds format; to 6 decimals)*	114.657733 W	114.657922 W

BACKGROUND DATA

1. Agency with Title to Facility: La Paz County

2a) Agency with Maintenance Responsibility La Paz County Public Works

2b) Describe how the maintenance responsibility is provisioned: (e.g. ownership highway easement deed and/or maintenance agreement): The bridge is owned by La Paz County and maintenance is performed by La Paz County Public Works.

3. Project Length: *Provide length in miles* 0.076

4. Existing Width: *Provide average width in feet* 22

5. Existing Posted Speed Limit: 5

6. Existing Bridge Information:
Provide known data for all bridge structures within the project limits.

Refer to the link below for guidance: http://azdot.gov/maps/functional-classification-maps

National Bridge Inventory Structure #	Bridge Length (ft.)	Bridge Width (ft.)	Bridge Area (Sq. Ft)	Bridge Sufficiency Rating
10618	400	22	**8,800**	74.7

7. Functional Classification:
Check those that apply.

- ☐ National Highway System
- ☐ Arterial
- ☑ Local Road
- ☐ Major Collector
- ☑ Minor Collector

Refer to the link for guidance: http://www.fhwa.dot.gov/planning/processes/statewide/related/highway_functional_classifications/

8. Traffic Volumes:
Provide any available traffic data from recent counts or other documented sources.
Note: If no data (i.e., counts) are available, please estimate range (< 200, 200 - 500, 500, 500 - 1000, > 1000 vehicles per day)

	Current	20-Year Projection	Data Source
Average Daily Traffic (ADT)	200	210	findthedata.com
Seasonal Average Daily Traffic	270	290	(visitors*2/3)/120 for winter visitor Dec/J
% ADT as FLMA visitors / users	66	70	visitors/365/ADT

9. Safety History:
Describe site(s), number, and type of crashes that have occurred within the project limits and the source of this information (reports or anecdotal). If available provide site specific crash data for last three years.

Although there have been no reported accidents on the bridge the safety rails along the bridge have been damaged by repeated collisions. It is believed that agricultural workers and OHV recreation vehicles frequently hit the safety rails but no claims or police reports are filed. Existing bridge railings, transitions, approach rails, and approach rail ends do not meet safety standards.

10. Projects in Proximity:
Describe other projects adjacent to or in proximity to this project that are being constructed to or within federal lands.

Hippie Hole Staging Area. "Hippie Hole" is a OHV and watersports recreation area being developed by La Paz County. The recreation area is on property owned by the BLM and leased to La Paz County as a public park. Funds for placement of vault toilets, shade ramadas, and picnic tables are provided through a grant by AZ State Parks. Hippie Hole is approximately 4.5 miles from Farmer's Bridge.

PROPOSED PROJECT

1. Purpose and Need:
Describe the need for the project including but not limited to who the project will serve, conditions requiring relief, and anticipated changes in use due to the proposed project.

The purpose of this project is to rehabilitate a bridge that is used extensively by both residents and visitors to the Cibola, Arizona area. An estimated 48,500 annual visitors to federal recreation areas and 200 residents utilize the bridge as the primary access to the area. For both residents and visitors the bridge provides a critical connection for emergency services and general access to the area. The bridge is structurally deficient for the level of traffic it carries and lacks basic safety features for a safe river crossing. While changes in the use of the bridge will be modest, they will be significant. The bridge will be accessible by a wider range of travelers as well as connecting wildlife to a broader range of habitat.

2. Proposed Design Standards:
Project will be designed to the following standards. Check those that apply.

☐ AASHTO ☑ State DOT ☑ Local Government ☑ FLMA

3. Proposed Width (feet):
Proposed width should be in accordance with the proposed design standards.

22

4. Proposed Speed Limit: 25

5. Description of Proposed Work:
Provide a detailed description of the proposed work. As appropriate include options to phase proposed work.

Install and remove temporary containment systems as needed to complete construction.

Install new concrete approach slabs at each end of the bridge. Remove concrete from behind existing abutments. Modify abutment type to cap and beam. Repair and update wingwall footings Replace removable span 3 with new span section. Remove existing pipe, grating and steel components on span three. Install new removable concrete deck system on span three. Replace existing safety rail with new new rail-post type barrier.

Please see attached engineering and project plan dated 3-12

6. Key Items of Work: Check all that apply. *Refer to link for guidance:* http://contextsensitivesolutions.org/content/reading/types-of-highway/

New Construction / Reconstruction (4R)

- ☐ Earthwork/Grading
- ☐ Road base
- ☐ Major Drainage (>48")
- ☐ Minor Drainage (<48")
- ☑ Retaining Walls
- ☐ ROW Acquisition
- ☐ Utility Relocations

Recycling (3R)

- ☐ Existing Asphalt / Base Recycling (Ex: Pulverization)
- ☐ Overlay
- ☐ Milling
- ☐ Minor Widening (< 5 ft.)
- ☐ Major Widening (> 5 ft.)

Bridge

- ☐ New
- ☐ Replacement
- ☑ Rehabilitation or Repair

Surfacing

- ☐ Asphalt
- ☐ Concrete
- ☐ Gravel

Safety

- ☑ Guardrail
- ☐ Sight Distance Improvements
- ☐ Roadside Hazards
- ☐ Other

*** Alternative Modes**

- ☐ Bicycle / Pedestrian facility
- ☐ Transit
- ☐ Other

Other

- ☐ Planning Study
- ☐ Environmental Linkage (PEL) Study
- ☐ Research

*Note: Applications that include alternative transportation elements (transit, bicycle, pedestrian, etc.), please fill out the supplemental worksheet for alternative transportation that can be found at: http://flh.fhwa.dot.gov/programs/flap/az

7. Right of Way Acquisition: All Right-of-way (ROW) property (acquisition costs) to be part of the project costs should be detailed in the project estimate page. All acquisition support costs are non-participating and will be borne by the applicant.

7a) Is ROW acquisition required? (yes /no) No

7b) Describe the anticipated ROW acquisition needed to construct project. Include the formalization of all ROW on FLMA lands.

No ROW required

8. Utility Impacts: All utility relocation costs must be accounted for by the applicant whether borne by the applicant or included as project cost. Utility relocation costs should be detailed in the project cost estimate.

8a) Will relocation of utilities be required? (yes /no) No

8b) Describe any anticipated utility impacts and proposed relocations.

No utility relocation is required.

9. Environmental Impacts / Resource Protection: Briefly describe known or anticipated impacts, positive or negative, to biological, cultural, wetlands or water resources, or any other environmental areas.

Wetlands / Water Resources	Positive	**Describe:**	Replacement of existing grate style removable span with an approved solid s
Dust or particulate matter	Positive	**Describe:**	Improvements to the bridge will encourage travelers to use the paved acces
Parks & recreation area / wildlife refuge (Section 4(f)/6	Positive	**Describe:**	This project will improve safe access to designated recreational areas and pro
		Describe:	
		Describe:	
		Describe:	
		Describe:	
		Describe:	

10. Lead Agency: CFLHD will be the lead agency. The applicant may request another agency take the lead for the project delivery. If recommending a different lead agency, identify alternative agency and rationale for this recommendation. The rationale should include why another agency should take the lead, previous experience in delivering Federal-Aid (Title 23) funded projects, certifications to deliver Federally funded projects, and ability to satisfy FHWA project delivery requirements. The final decision for project delivery resides with the PDC. If delivered by another Agency, CFLHD will have Stewardship and Oversight Responsibility.

CFLHD will be the lead agency.

PROPOSED PROJECT COST ESTIMATE

Use this page to develop a cost estimate for the project. Attach a detailed estimate if available as backup to the below information. Must include all project costs including Preliminary Engineering and Construction Engineering costs, ROW, utility relocation, etc. Determine the cost per mile numbers based on understanding of local costs and the type of work proposed. Determine the % of engineering required based on the anticipated engineering and environmental compliance needed to meet Federal requirements and standards.

1. Major Work Items: costs below includes clearing and grubbing, earthwork drainage improvements, retaining walls, revegetation, permanent signing, and temporary traffic control.

	$ Per Unit (mile or sq. ft.)	Unit Length (mile or sq. ft.)	Total Cost ($ per unit x unit length)
a) New construction or Reconstruction (4R) (Excluding Surfacing) Range: **$1,000,000 - $2,000,000** per **mile** (Basis: 24 ft. width, 6 in. aggregate base)			
b) Pavement Recycling (3R) (Excluding Surfacing) Range: **$250,000 - $500,000** per **mile** (Basis: 24 ft. width, 6in of pulverization)			
c) Pavement Recycling (3R) with Minor Widening (< 5 ft.) (Excluding Surfacing) Range **$400,000 - $700,000** per **mile** (Basis: 24 ft. width, 6 in. pulverization)			
d) Pavement Recycling (3R) with Major Widening (> 5ft.) (Excluding Surfacing) Range **$600,000- $1,000,000** per **mile** (Basis: 24 ft. width, 6 in. pulverization)			
e) Other (please specify in box) Include $ per mile in "$ per unit"			

2. Surfacing (costs below are not included in costs above):

a) Asphalt Surfacing (includes pavement markings and associated items* Range: **$400,000 - $600,000** per **mile** (Basis: 24ft. width, 4 in. of asphalt)			
b) Gravel Surfacing Range: **$200,000 - $300,000** per **mile** (Basis: 24ft. width, 4 in. of gravel resurfacing)			

* *Asphalt Surfacing items may include prime, tack, fog, etc*

3. Additional Work Items:

a) Bridge (New or Replacement) Range: **$250,000 - $500,000** per **sq. ft.** (Basis: Concrete girders with spread footings)			

b) Bridge Rehabilitation / Repair	**Cost (Lump Sum):**	$720,629.00
c) ROW Acquisition	**Cost (Lump Sum):**	
d) Utility Relocation	**Cost (Lump Sum):**	

4. Other Work Items (provide backup data for these lump sum costs)**:**

a) Item 1 Name:		**Description:**		**Cost (Lump Sum):**	
b) Item 2 Name:		**Description:**		**Cost (Lump Sum):**	
c) Item 3 Name:		**Description:**		**Cost (Lump Sum):**	

ESTIMATED COST SUBTOTAL OF PROPOSED PROJECT: **$720,629.00**

Arizona Federal Lands Access Program: Proposed Funding

ESTIMATED COST SUBTOTAL OF PROPOSED PROJECT (from previous page)**:** $720,629.00

5. Contingency (for unaccounted items - this is a fixed 10% of estimated subtotal of proposed project)**:** $72,062.90

6. Engineering (required for all projects)**:**

a) Preliminary Engineering (% of Construction Cost, ROW & Utility Relocation)
Range: 7%-15% of Items 1-4 plus contingency (Enter as percentage without symbol - i.e. 5.5 for 5.5%) 7 % = $55,488.43

b) Construction Engineering (% of Construction Cost, ROW & Utility Relocation)
Range: 10% - 12% of Items 1-4 plus contingency (Enter as percentage without symbol - i.e. 5.5 for 5.5%) 10 % = $79,269.19

7. ESTIMATED TOTAL COST OF PROPOSED PROJECT: $927,449.52

8. Enter the total funds requested from Federal Lands Access Program: $874,584.00 = 94.3 % *(cannot exceed 94.30%)*

9. Project Funds Leveraged: Detail the non-FLAP match that will be furnished below.

Match Breakdown	Percent (%)	Amount ($)	Agency Funding Source(s)	Timing of Availability (as *MM/YYYY*)
Required		$10,000.00	* La Paz County General Fund	07/2016
Minimum Match	5.70%	$42,864.62		
Over Match				
TOTAL FUNDS LEVERAGED	5.7	$52,864.62		

* Maximum funding amount per reimbursable agreement to fund scoping efforts.

10. Describe all funding sources and partnerships for cash and in-kind contributions. (Overmatch funding sources do not have any restrictions).

La Paz County paid $130,835 in contract fees to have preliminary and construction engineering completed in May 2011. The project was discontinued at that time as being too costly for the general fund. No other funding sources were known to be available at that time. The county requests that these engineering costs be applied toward the county's required matching funds. All additional required cash matching funds for this project are anticipated to be paid out the the La Paz County General Fund.

11. Summarize cost for project including assumptions made. Describe costs that are outside of the general summary in the estimate.

Preliminary and construction engineering for this project was completed in 2012. The county was unable to obtain funds to complete the rehabilitation of the bridge at that time. An initial estimate for the Per the Lump sum total for bridge rehabilitation was composed of the following:

Bridge Rehabilitation	$626,285
Guardrails, Terminals, Thrie Beam	$ 24,344
Mobilization	$ 70,000

Criteria 1 - Access Mobility and Connectivity

1. Describe the high use Federal recreation site(s) and/or Federal economic generator(s) accessed by this project. How is the proposed facility connected to the site(s)? How will it improve access? Are there other access points to the site?

The Farmer's Bridge in Cibola, Arizona provides the only all season, paved access to two federal recreation areas; the Cibola National Wildlife Refuge and the Oxbow Campground. These two areas are popular with both summer and winter visitors that enjoy nature in an out of the way natural setting. Cibola National Wildlife Refuge is located in the floodplain of the lower Colorado River. The refuge was established in 1964 by the Bureau of Reclamation as a means of mitigation for flooding and to provide a home for wildlife. The Oxbow campground is a year-round accessible camping area 23 miles south of Blythe, CA. Visitors to the area enjoy wildlife watching, photography, hunting, fishing, environmental education programs, camping, hiking, picnicking, and OHV activities. Making the proposed improvements will improve the safety of all visitors to the area and expand access to include pedestrians, bicycles, and motorcycles. A second bridge owned by BLM crosses the Colorado River just north of the Oxbow Campground. Roads to the alternate bridge are not paved or well marked.

2. Describe how the project will improve the visitor experience. How many visitors access the site(s) using the proposed roadway/trail/ facility?

Every year approximately 48,500 people visit the federal recreational areas accessed by the bridge. There are also 200 residents of Cibola, AZ that require the use of the bridge to access shopping, medical care, and emergency services. As all other routes into the area require travel on poorly marked unpaved roads. The vast majority of visitors cross the Colorado River into the Cibola area via the Farmers' bridge. Informal estimates suggest up to 80% or about 38,800 people cross the bridge every year. Improving the bridge will remove the stresses caused by the need to cross a visually and structurally inadequate bridge.

3. Describe how the proposed project and the facility are connected to the existing transportation network.

The farmer's bridge is connected by free use, paved, public roads maintained by Imperial County in California and La Paz County in Arizona. It should be noted that the only paved access to Cibola NWR and the Oxbow Campground in Arizona is from California using the Farmer's Bridge.

4. Will this project improve mode choices or provide alternative modes of transportation? If yes, describe these improvements.

In its current condition to bridge is hazardous, but usable for four wheeled cars, truck, and ATVs. It is not usable by bicycles, motorcycles, pedestrians, or horses. There bridge includes a single removable span composed of welded steel pipes. The span resembles a very large cattle guard with 3 to 4 inch gaps between the welded pipes. The bridge is very narrow and has a minimal safety rail that is approximately 4 inches high, mounted about 2 feet above and 1 foot out from the decking. Replacing the removable section with an engineered solid span and installing approved safety rails will make the bridge accessible to hikers, bicyclists, motorcycle tours, and horses.

5. Will this improve congestion and/or access management (e.g. reduction in traffic congestion, restrictions, bottlenecks, size/load limits, and/or improve emergency access)? If yes, describe these improvements.

The bridge span is 22 feet (6.6 meters) wide. By USDOT standards this is wide enough for two lanes of traffic at 20-30mph. Due to the conditions of the bridge it is currently a single lane 5mph bridge. With the narrow, light colored edge rail it is difficult for drivers to tell where the edge of the bridge is. This is evidenced by the extensive scaring and rub marks on the edge rails on both sides of the bridge. The result is a traffic bottleneck posing a potential restriction for emergency response vehicles. The addition of wing walls, substantive and highly visible safety rails, and lane striping will allow for safer passage for vehicles across the bridge.

Criteria 2 - Economic Development

1. Identify the community(s) economically dependent on the access to the federal land(s) and the industry(s) that comprise the local economic base (e.g. resource extraction, tourism, etc.). Describe how this local economy is tied to the transportation network and proposed facility. How would the proposed project influence the community's economic goals/ needs or development?

Two of the strategic initiatives in the La Paz Region Strategic Plan for Community and Economic Development are to develop hospitality and tourism and to promote quality of life and livability. Both of the communities near the Cibola NWR have an agricultural economic basis and exist in tandem with the federal property rather than being economically dependent upon it. The small towns of Ripley, California and Cibola, Arizona are both small farming communities with local populations that prefer the traditional lifestyles found in rural locations. The Cibola NWR and the Oxbow Campground appeal to outdoor enthusiasts that prefer a natural setting with limited development. These federal properties are surrounded by working farms and grazing areas providing an isolation that is supports wildlife and allows travelers to escape the modern, urbanized setting. This project enhances tourism as an economic industry while at the same time improving livability and quality of life for the residents.

2. If the proposed project is located on a designated federal, or state scenic byway or backway, identify the scenic byway/backway and explain the anticipated benefit related to it. Would the project meet the needs identified in the Byway's management plan?

The project is not located on a designated scenic byway.

Criteria 3 - Preservation

1. Provide detail of the existing surface or facility condition. How will the project improve the surface/facility condition?

Despite being only 35 years old the bridge is classified as functionally obsolete. The last inspection of the bridge on record was in 2012. At that time the decking was deemed to be in fair condition. Both the superstructure and substructure were deemed to be satisfactory. The approach roadway was described as "intolerable." By contrast the load rating for the structure was found to be moderate. Since then the condition of the bridge has not improved. The decking is visibly worn, the navigation lights are broken and the safety rails are improvised. The signage indicating speed and load limits are faded and nearly illegible. Completion of this project will ensure that this bridge does not degrade to a structurally deficient status.

2. How will the project impact maintenance and operating costs?

The existing bridge was privately financed reconstruction finished in 1981. In 2012 La Paz County took possession of the bridge as it had significantly degraded and required maintenance to remain serviceable. An engineering study was completed to determine what would be required to bring the bridge up to a fully functional status. The improvements required turned out to be more costly than could be financed by the county directly. Since that time La Paz County Public Works has done routine maintenance to inhibit further degradation of the bridge. This project will complete the outstanding required improvements and eliminate maintenance and operations expense related to loss risk exposure.

3. Will this project improve a deficient rating or extend the service life of a structure?

This project will prevent a deficient rating and extend the life of the existing structure. The original bridge at this location was privately constructed by local farmers in 1957 and was destroyed by flooding in 1976. The existing bridge was privately financed reconstruction finished in 1981. In 2012 La Paz County took possession of the bridge as it had significantly degraded and required maintenance to remain serviceable. This project will resolve the known structural deficiencies in the bridge.

Criteria 4 - Safety

1. How would the proposed project improve unsafe conditions such as crash sites, inadequate sight distance, roadside hazards, poor vertical / horizontal alignment, hazardous intersections, inadequate lane and shoulder widths, etc?

The bridge span is 22 feet (6.6 meters) wide. By USDOT standards this is wide enough for two lanes of traffic. However, due to the condition of the surface, the absence of lane striping, and the safety rails used this bridge is considered to be a single lane, low speed bridge. With the narrow, light colored edge rail it is difficult for drivers to tell where the edge of the bridge is. This is evidenced by the extensive scaring and rub marks on the edge rails on both sides of the bridge. The addition of wing walls, substantive and highly visible safety rails, and lane striping will allow for safer passage for vehicles across the bridge.

2. Describe how the project will improve safety for a wide range of users (destination motorists, bicyclists, pedestrians, public transportation, etc.).

In its current condition to bridge is not usable by bicycles, motorcycles, pedestrians, or horses. The bridge has a removable span that resembles a very large cattle guard with 3 to 4 inch gaps between the welded pipes. The bridge is very narrow and has a minimal safety rail that is approximately 4 inches high and mounted about 2 feet above and 1 foot out from the decking. Locals traversing the bridge as a single lane frequently use the center of the bridge at high speed as they perceive it to be a single 22 foot wide lane. The improvements included in this project are designed to improve traffic flow across the bridge and make it accessible to all travelers.

Criteria 5 - Sustainability and Environmental Quality Benefits

1. Describe how the proposed project contributes to the environmental goals and objectives of the Federal Land Management Agency.

Both the BLM and USFW maintain multiple conservation and study areas in proximity to the designated camping and visitor areas. By improving access to approved areas, improvements to this bridge will encourage visitors to utilize areas designated for recreational use and avoid conservation, rehabilitation, and study areas.

2. Describe how would the project enhance wildlife connectivity, wildlife habitat, and / or aquatic organism passage. How would the project reduce pollution (noise, emissions, water, dust, etc.)?

The same improvements that will allow pedestrians to utilize the bridge will enable wildlife to use the bridge to cross the river. Improvements to this bridge will increase its desirability as the primary crossing point across the river. As traffic migrates to the improved bridge traffic on unpaved roads will decrease resulting in less erosion and dust from use of primitive roadways.

3. Describe if the project would contribute to the use of sustainable energy sources (e.g. alternative fuels, alternative transportation, etc.).

This project would contribute to the use of alternative energy by improving accessibility. In its current condition the bridge is hazardous to cross using motorcycles, bicycles, or on foot. By improving access for alternative, fuel efficient means of transportation the project encourages sustainable living. By increasing the accessibility of the passage to alternative methods of transportation this project improves the quality of life for human residents and wildlife.

4. Describe any known environmental compliance or permitting work completed or anticipated on this project.

No environmental compliance work is required for this project.

Criteria 6 - Funding and Coordination

1. Describe coordination and support from FLMA and other project stakeholders. Provide support letters.

This project is supported by La Paz County, Arizona, Imperial County, California, the US Fish & Wildlife Service - Cibola NWR, and the Bureau of Land Management, as well as the citizens of Cibola, Arizona. La Paz County is the applicant and letters of support from the FLMAs and Imperial County are included. While the project is limited in scope, the improvements proposed for the bridge will have wide reaching impacts though out the area.

2. Is this project included in applicable state, regional, FLMA, and/or local plan(s)? If yes, describe how it is consistent with these plan(s).

This project supports two of the four strategic initiatives in the La Paz Region Focused Future II Strategic Plan for Community and Economic Development; hospitality and tourism as economic opportunity and community development promoting quality of life and livability. The rehabilitation of the bridge represents a dramatic improvement in the quality of life for Cibola residents that traverse the bridge on a daily basis. The plan supports the tourism related improvements to the area making a safer and more pleasant access for area visitors to utilize federal, state, local, and private outdoor recreational activities. A copy of the strategic plan is included as an attachment.

Submittal Instructions:

1. Save your form as PDF to your computer, with file name similar to:
ARIZONA FLAP APP 2016 <PROJECT NAME>
   a. Check that all fields have been completed and that all your work has saved properly prior to e-mailing your application.

2. Attach all additional files:
   a. Review the checklist you completed on page 1 and attach all photos, maps project estimates, and forms requiring signatures.
   b. Maximum total for all files is 15MB. Using a zip application may help reduce file sizes but it is the responsibility of the sending party to ensure their file has successfully transmitted (not getting stuck in the e-mail "outbox").
   c. ***ATTENTION:*** *DO NOT USE YOUR PDF SOFTWARE TO ATTACH DOCUMENTS INTO THE PDF DOCUMENT AS ALL YOUR FORM FIELDS WILL BE INVALID. ALL ATTACHED PHOTOS AND FILES SHOULD BE SEPARATE FILES.*

3. Save a copy for your records

4. E-mail your completed form to **cfl.planning@dot.gov**, using the subject: *ARIZONA FLAP APP 2016 <PROJECT NAME>*

5. Check your e-mail's "sent box" to ensure that your file was sent. Larger files may take longer to send.
   a. You should receive confirmation of receipt of your submission within 3 working days.

Arizona Federal Lands Access Program: Project Application Packet Checklist

Program Information:

The Programming Decisions Committee (PDC) of the Arizona Federal Lands Access Program is currently soliciting Project Applications for Arizona Federal Lands Access Program funds. The PDC anticipates programming between $45-$58 million from 2019-2022, depending on program needs and future congressional action.

The PDC will evaluate Project Applications submitted and select those to be programmed using the Project Application evaluation criteria developed by the PDC. By submission of a Project Application the Applicant is acknowledging to the following requirements:

a) The Arizona Federal Lands Access Program **minimum non-Federal Aid Highway (Title 23) match of 5.70%** based on the total project cost has been met; and

b) If selected, the Applicant will enter into a Reimbursable Agreement for the not-to-exceed amount of $10,000 within **45 days** of notification of selection, for the completion of project scoping by Central Federal Lands to develop an accurate scope, schedule, and budget. This dollar amount will be provided toward the overall match for the project, following award. Please be advised that this may require an approval (Resolution) of Reimbursable Agreement funds from the governing agency prior to the Project Application deadline. If the PDC and the Applicant agree with the project scope and cost, then a Memorandum of Agreement will be required within **60 days** from approval of funding.

Instructions:

Applications must be received by **July 15, 2016** to be considered.

All project applications must be submitted using the Arizona Access Program Project Application form. Complete the project application to the best of your ability. It is the responsibility of the entity proposing a project to supply the necessary information to complete the project application. It is understood that data may not be available for all of the project application questions, but the agency may use anecdotal information as a substitute. If possible, please keep this form as a writable PDF form, this makes it easier to review your application. This can be done by saving your form as a PDF and attaching it within an e-mail along with all additional attachments. Supplemental materials including alternative transportation, endorsement, and support forms can be printed and scanned then attached if necessary.

1. Complete **Project Application Packet**: Project Application, Signature Forms, Letters of Support, and Resolution for approval of funds (as needed by Governing Body)

2. Attach this Application Checklist as a Cover Page to the complete the Project Application Packet

3. Per the Submittal Instructions (page 10), please E-mail your completed Project Application Packet to **cfl.planning@dot.gov**

If you require assistance in completing this form, please contact:

Morgan Malley , Transportation Planner
Central Federal Lands Highway Division
12300 West Dakota Ave, Ste 380B, Lakewood, CO 80228
Phone: 720-963-3605 | morgan.malley@dot.gov

Additional information on the Access Program is located at http://flh.fhwa.dot.gov/programs/flap/az/

Project Application Evaluation Checklist *(1-5 required)*

- [x] 1) The facility title or maintenance responsibility is vested in a State, county, city, tribal, or local government
- [x] 2) Acknowledgement that the project has required minimum non-Federal Aid Highway (Title 23) match
- [x] 3) Acknowledgement that facility is located on, is adjacent to, or provides direct access to Federal land(s)
- [x] 4) Sign and Attach Applicant Project Endorsement Form
- [x] 5) Sign and Attach FLMA Support Form from all applicable Federal Land Management Agencies

Project Application Supplemental Material Checklist *(6 - 9 check all that are attached at submission)*

- [x] 6) Project maps included (Site map identifying project termini, Vicinity map identifying regional context)
- [x] 7) Project photos included (Attach 4 - 6 Photos in jpeg, gif, png format)
- [x] 8) Link to a video tour of project limits (Optional but strongly encouraged) *Video Link Here:* https://www.youtube.com/watch?v=JV
- [ ] 9) Supplemental Alternative Transportation Worksheet (Alternative projects only)

Arizona Federal Lands Access Program:
Proposed Project Endorsement Form

Project endorsement can be signed electronically or be printed, signed and submitted electronically.

Agency with Title or Maintenance Funding Responsibility

By signing this endorsement form, the signatory certifies:

A) The project provides access to, is adjacent to, or is located within a Federal recreation site or Federal economic generator

B) Sufficient maintenance funds will be provided for the life of the constructed facility

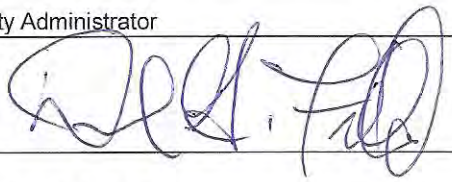
C) Funding commitments are, or will be, made available as detailed on page 6 of the Arizona FLAP Proposed Project Application

D) Reimbursable Agreement will be executed with the Applicant within 45 days of project short-list notification. *(Example furnished upon request)*

1. Agency submitting application (must be the transportation facility owner or provides funds for maintenance of existing transportation facility): La Paz County

2. Name of authorized agency official: Dan Field

3. Title: County Administrator

4. Signature: 

5. Date (MM/DD/YYYY): 06/30/2016

6. E-mail: dfield@co.la-paz.az.us

7. Telephone: (928)669-6115 ext.

8. Address 1: 1108 Joshua

9. Address 2: Parker, AZ 85344

10. Identify any tribal, state, regional, or local plans that have included this project (e.g. Regional Transportation Plan, Capital Improvement Plan, etc.):

N/A

11. Project Point-of-Contact (POC) Name: Ken MacFarland

12. POC Telephone: (928)575-6109 ext. 13. POC e-mail: kmacfarland@co.la-paz.az.us

Morgan Malley, Transportation Planner
Central Federal Lands Highway Division
12300 West Dakota Ave, Ste 380B, Lakewood, CO 80228
Phone: 720-963-3605 | morgan.malley@dot.gov
Additional information on the Access Program is located at:
http://flh.fhwa.dot.gov/programs/flap/az/

Arizona Federal Lands Access Program:
Proposed Project FLMA Support Form

This form can be signed and submitted electronically or be printed, signed, scanned and submitted electronically.

Letters of support are highly recommended in addition to this signature page.

Support Form - Acknowledgement of Coordination with Federal Land Management Agency (FLMA)

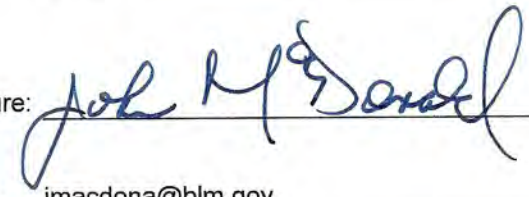
By signing this support form, the FLMA representative certifies that the projects provide access to, is adjacent to, or are located within a Federal recreation site or Federal economic generator.

Please Note: All fields are required.

1. Federal Land Management Agency (FLMA) supporting project: Bureau of Land Management

2. Name of FLMA representative: John MacDonald

3. Title: Field Manager

4. Signature:  5. Date (MM/DD/YYYY): 06/03/2016

6. E-mail: jmacdona@blm.gov 7. Telephone: 928.317.3201 ext.

8. Address 1: 7341A E. 30th ST

9. Address 2: Yuma, AZ 85365

10. Comments on the proposed project:

The BLM supports La Paz County's application for the Farmer's Bridge over the Colorado River. This project will improve safe access to the Sportsmen's Paradise (Harvey's Fishing Hole) community and to the BLM Oxbow campground.

11. FLMA Point-of-Contact (POC) Name: Tom Jones

12. POC Telephone: 928.317.3239 ext. 12. POC e-mail: tkjones@blm.gov

Morgan Malley, Transportation Planner
Central Federal Lands Highway Division
12300 West Dakota Ave, Ste 380B, Lakewood, CO 80228
Phone: 720-963-3605 | morgan.malley@dot.gov
Additional information on the Access Program is located at:
http://flh.fhwa.dot.gov/programs/flap/az/

Arizona Federal Lands Access Program:
Proposed Project FLMA Support Form

This form can be signed and submitted electronically or be printed, signed, scanned and submitted electronically.

Letters of support are highly recommended in addition to this signature page.

Support Form - Acknowledgement of Coordination with Federal Land Management Agency (FLMA)

By signing this support form, the FLMA representative certifies that the projects provide access to, is adjacent to, or are located within a Federal recreation site or Federal economic generator.

Please Note: All fields are required.

1. Federal Land Management Agency (FLMA) supporting project: US Fish and Wildlife Service

2. Name of FLMA representative: Curt Kessler

3. Title: Cibola National Wildlife Refuge Manager

4. Signature:  5. Date (MM/DD/YYYY): 07/07/2016

6. E-mail: Curt_Kessler_fws.gov 7. Telephone: 928-857-3253 ext. 103

8. Address 1: 66600 Cibola Lake Rd

9. Address 2: Cibola, Az 85328

10. Comments on the proposed project:

I highly support this project and encourage that the rebuilding of the bridge across the Colorado River be undertaken. This is the only paved road across the river and into Cibola NWR. There are two other dirt roads that can be used by high clearance vehicles, one of which is currently washed out. It is extremely important to have a safe and durable bridge that visitors can use to access the refuge. In addition it will increase safety for all that live and work in Cibola Arizona.

11. FLMA Point-of-Contact (POC) Name: Curt Kessler

12. POC Telephone: 928-857-3253 ext. _____ 12. POC e-mail: Curt_Kessler@fws.gov

Morgan Malley, Transportation Planner
Central Federal Lands Highway Division
12300 West Dakota Ave, Ste 380B, Lakewood, CO 80228
Phone: 720-963-3605 | morgan.malley@dot.gov
Additional information on the Access Program is located at:
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IMPERIAL COUNTY COMMUNITY & ECONOMIC DEVELOPMENT
"Promoting Economic Development Throughout Imperial Valley"

Esperanza Colio Warren,
Manager

940 West Main Street, Suite 203
El Centro, CA 92243-2875
Tel: (442) 265-1100
Fax: (442) 265-1118

June 23,2016

Morgan Malley
U.S. Department of Transportation
Central Region
1200 New Jersey Ave., SE
Washington, DC 20590

Dear Mr. Malley,

The Imperial County Board of Supervisors is pleased to offer their support the La Paz County, Arizona in their grant application to the U.S. Department of Transportation (USDOT) to rehabilitate "Farmers Bridge", an important connection between Imperial County, California and La Paz County, Arizona.

The County of Imperial is aware of the need for better and safer means of travel for all in the community. Also, being a county that was founded on agriculture, it is of high importance that a bridge like "Farmers Bridge" be rehabilitated to allow the safe import and export of goods through our neighboring counties. As such, this project is an excellent candidate for the USDOT funding by showing the commitment to improve safety on a key segment of interstate travel.

Again, it is of great pleasure to offer this letter of support and urge that the funding of this application be granted to the County of La Paz.

If you have any questions or concerns regarding this matter, please do not hesitate to contact me at (442) 265-1101 or by email at esperanzacolio@co.imperial.ca.us.

Sincerely,

Esperanza Colio Warren,
Community & Economic Development Manager

THE STATE OF ARIZONA
GAME AND FISH DEPARTMENT
5000 W. CAREFREE HIGHWAY
PHOENIX, AZ 85086-5000
(602) 942-3000 • WWW.AZGFD.GOV
REGION IV, 9140 E. 28TH ST., YUMA, AZ 85365

June 17, 2016

Mr. Morgan Malley
Transportation Planner
Central Federal Lands Highway Division
12300 West Dakota Ave, Ste. 380B
Lakewood, CO 80228

Mr. Malley:
The Arizona Game and Fish Department (Department) wishes to support La Paz County's recent application to you for the redevelopment of the Farmer's Bridge near Cibola, Arizona. This application was submitted by La Paz County under the Arizona Federal Lands Access Program.

The Department supports this application because the renovation of this bridge would improve safe access to a variety of outdoor recreation users to include hunters, anglers, watchable wildlife enthusiasts, and off highway vehicle users. Cibola Valley is in Arizona, but the safest and most effective route for members of the public to access the area is through California via State Highway 78 (two routes from the Arizona side are unpaved roads across remote/undeveloped desert). As a result the Farmers Bridge across the Colorado River becomes a critical access feature, and these renovations will ensure the crossing is safe into the future.

If you have any other questions or wish to discuss please contact me at 928-314-4040 or at pbarber@azgfd.gov.

Sincerely,

Samuel P. Barber
Region IV Supervisor

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Colorado River District
Yuma Field Office
7341 E. 30th Street Suite A
Yuma, Arizona 85365-6525
www.blm.gov/az/

In Reply Refer To:
2800 (C020)

June 15, 2016

Mr. Morgan Malley
Transportation Planner
Central Federal Lands Highway Division
12300 West Dakota Ave, Ste. 380B
Lakewood, CO 80228

Dear Mr. Malley:

As a Federal Land Management Agency (FLMA), the Bureau of Land Management (BLM) Yuma Field Office wishes to support La Paz County's recent application to you for the redevelopment of the Farmer's Bridge near Cibola, Arizona. This application was submitted by La Paz County under the Arizona Federal Lands Access Program.

The BLM supports this application because the renovation of this bridge would improve safe access to a variety of BLM recreation sites immediately adjacent to it including the Sportsmen's Paradise community and the Oxbow Campground. The Sportsmen's Paradise resort community of 45 dwellings is directly adjacent to the Farmer's Bridge and supports about 150-200 individuals who spend about 30-60 days a year there. For the Oxbow Campground about ½ mile downstream from the bridge, the estimates are that between 3500-4000 people per year visit this site.

A renovated bridge would also improve access for hunters, off-highway vehicle users, wildlife viewers, and recreational miners who frequent La Paz County along the Colorado River.

If you have any other questions concerning our support, please contact Tom Jones at 928-317-3239 or at tkjones@blm.gov.

Sincerely

John MacDonald
Field Manager
Yuma Field Office

cc: Ken MacFarland,
La Paz County Community Resources
1109 Arizona Avenue,
Parker, AZ 85344

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Cibola National Wildlife Refuge
66600 Cibola Lake Rd
Cibola, AZ 85328

July 7, 2016

Morgan Malley
Transportation Planner
Central Federal Lands Highway Division
12300 West Dakota Ave, Ste. 380B
Lakewood, CO 80228

Ms. Malley:

The Cibola National Wildlife Refuge would like to provide full support of La Paz County's application for funding for the Farmer's Bridge Rehabilitation Project. The Federal Lands Access Program provides a great opportunity for the Refuge and the county to work together to improve safety and accessibility to the Refuge and neighboring communities. Without funding through the Access Program, it is very unlikely that the county or the Refuge will come up with resources to make the necessary repairs.

Because Farmer's Bridge is the only all season, paved access to the Refuge, visitors, employees, and locals all depend on the bridge to enjoy the natural resources in the area. Staff at the Refuge are extremely concerned with the safety of the approximate 42,800 annual visitors (Refuge Annual Performance Plan, 2015). With improved abutments and wingwall footings, a consistent concrete bridge span, and modern barriers (among other improvements), the bridge will be apt to accommodate modern traffic and provide a safe opportunity to cross the river.

The Refuge and the U.S. Fish and Wildlife Service (FWS) Transportation Program have worked with the county and its other partners to develop this project proposal and will continue to work with the county as necessary to ensure that the project is seen through completion and that the upgrades are consistent with FWS standards.

Thank you for your consideration on this crucial project for the Cibola NWR and La Paz County. If you have any questions regarding this matter, don't hesitate to call or email at 928-857-3253 or curt_kessler@fws.gov.

Sincerely,

Curt Kessler
Refuge Manager, Cibola NWR

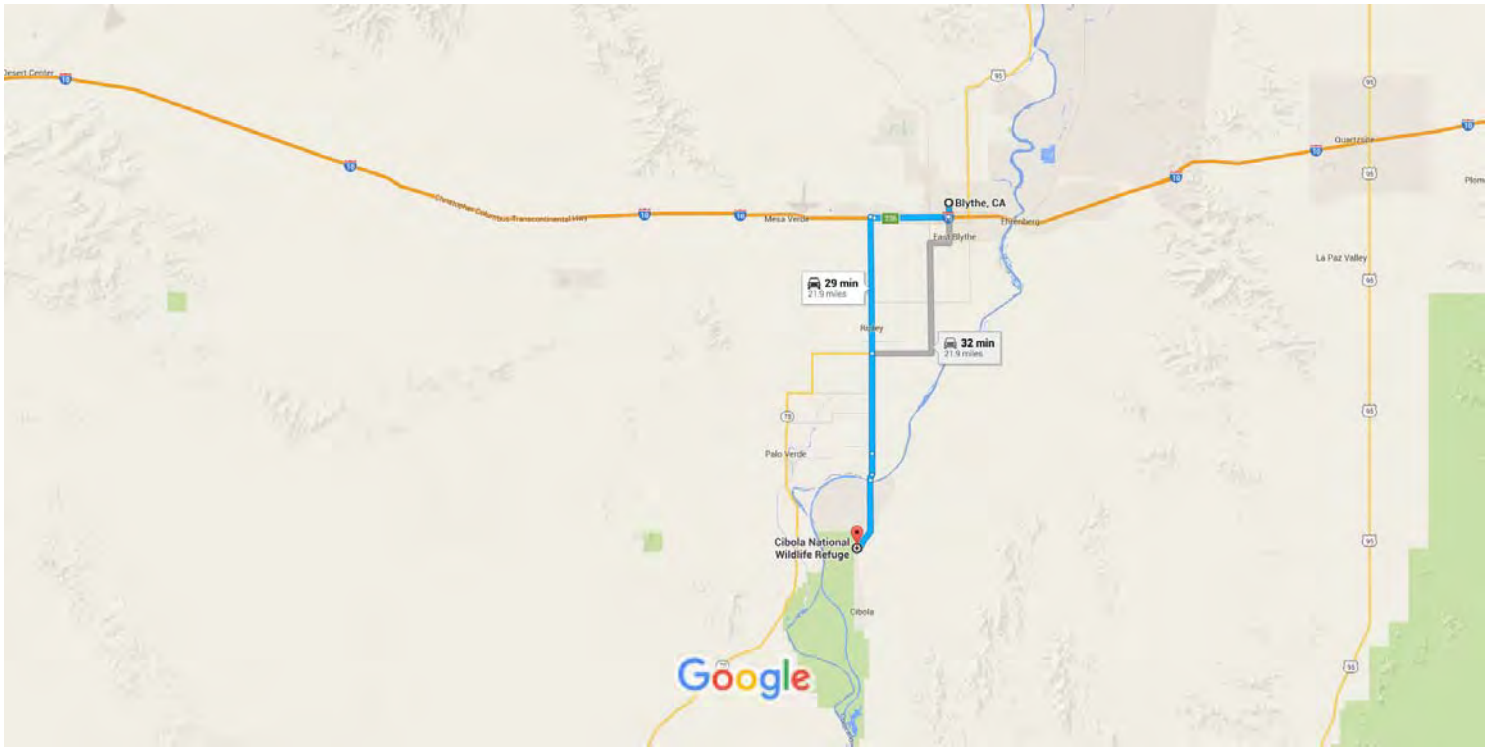
cc: Ken MacFarland
La Paz County Community Resources
1109 Arizona Avenue
Parker, AZ 85344

Google Maps

Blythe, CA to Cibola National Wildlife Refuge

Drive 21.9 miles, 29 min

Farmers Bridge, La Paz County river crossing to Cibola NWR



Map data ©2016 Google 2 mi

Google Maps

Blythe, CA to Cibola National Wildlife Refuge

Drive 21.9 miles, 29 min

Farmers Bridge, La Paz County

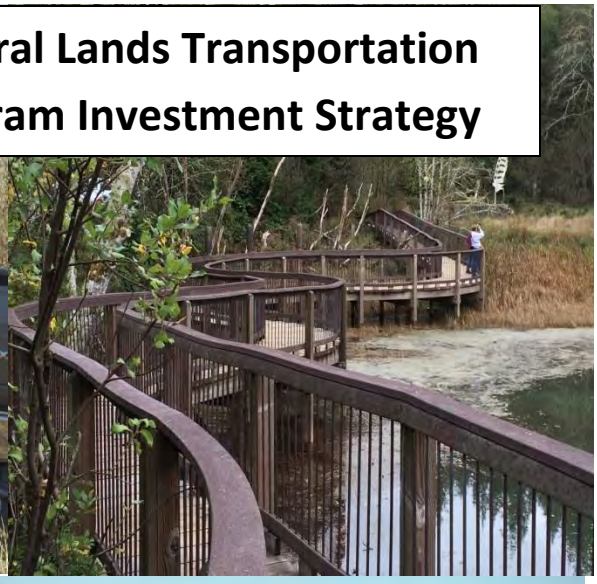
Imagery ©2016 Google, Map data ©2016 Google 50 ft

Google Maps

APPENDIX VI FWS TRANSPORTATION PROGRAM INVESTMENT STRATEGY, FY 2016-2020

U.S. Fish and Wildlife Service

Federal Lands Transportation Program Investment Strategy



For the FAST Act –

FY 2016-2020

"Manage the top line: your strategy and your products - and the bottom line will follow"

-Steve Jobs

FWS Transportation Program Coordinators, Transportation Scholars, and Volpe Staff, San Diego Bay NWR, 2014

Introduction

The U.S. Fish and Wildlife Service (the Service or U.S. FWS) has been a program partner within the Federal Lands Transportation Program (FLTP) since 1998. Over the following 17 years, until the beginning of FY 2016, surface transportation legislation and other discretionary funding opportunities have provided the Service over $500 Million for transportation improvements. The maturity of the program is evident in the emergence of comprehensive transportation planning, processes to assist with data-informed project selection and tools to manage and analyze data. It is also demonstrated through successful project implementation across the nation.

Following the early years of focusing on catching up with major improvement needs, the Service has developed a comprehensive approach of identifying and fulfilling needs. Unfortunately, the Service Transportation Program funding authorization was not increased in the recent passage of the Fixing America's Surface Transportation (FAST Act), significantly constraining the program in completely implementing its goals and new direction. If the Service had realized an effective 25% increase in annual funding over the next 5 years to year 2020 (like that of the National Park Service), the Service would be able to more fully implement the comprehensive strategies laid out in its Long Range Transportation Plan (LRTP) and other planning initiatives and achieve increased asset improvement.

Regardless of the current state of annual funding, the Service is poised to continue its strong management of transportation assets and strategically use the authorized funds to continue the program's legacy. With mechanisms in place through its transportation planning, the Service will be able to more fully measure and report on that success. This investment strategy follows the guidance and provides several overarching guiding principles that will be mentioned throughout the document, and then summarized at the end. The Service will diligently implement the program goals and strategies over the next few years to demonstrate a sound investment and to more fully document transportation needs. The Service will then fold that information into transportation needs papers to support potential growth of funding resources into the next surface transportation legislation.

Program and Long Range Transportation Plan Overview

Since its inception in 1998, the U.S. Fish and Wildlife Service Transportation Program has fine-tuned its processes to plan and make transportation decisions with increasingly data-driven, performance-based methods. This FY 2016 - 2020 Investment Strategy builds on those successes, describes where the program has room to grow, and outlines how it will get there.

Through the Transportation Program, the Service will continue to efficiently provide access to America's treasures. In the coming years, the Service will focus particularly on connecting to traditionally under-represented communities near Urban Refuges using multimodal transportation. Connecting with these larger population centers is imperative to building support among the future leaders of conservation.

The Service conducts transportation planning and allocates funding on a regional level based on the eight regions shown in Figure 1. For the most part, Regions follow HQ guidance, data systems, and other protocols but have flexibility to make decisions that are best for their regions. There are two full-time staff located in the headquarters office (Transportation Program Manager and Assistant Transportation Program Manager), and one full-time Regional Transportation Coordinator in each region, allowing for planning efforts and decision making along a range of scales.

Figure 1 Map of the U.S. Fish and Wildlife Regions

The program is working toward completing a Regional Long Range Transportation Plan for each region, along with a National LRTP, PLAN 2035. The program has made the following progress toward completing each of these plans:

- National Plan – (99%; Federal register review complete)
- Region 1 – Northwest and Hawaii (100%)
- Region 2 – Southwest (90%)
- Region 3 – Midwest (100%)
- Region 4 – Southeast (99%; Federal review complete)
- Region 5 – Northeast (95%; Federal register review underway)
- Region 6 – Mountains/Prairies (90%)
- Region 7 – Alaska (100%)
- Region 8 – Pacific West (50%)

The LRTPs (and this Investment Strategy) were informed by a number of other U.S. Fish and Wildlife Service studies/programs/datasets to understand the relationship between communities and the nation's National Wildlife Refuges (NWRs) and National Fish Hatcheries (NFHs). These include:

- *Roadway Design Guidelines*
- *Banking on Nature: The Economic Benefits to Local Communities of National Wildlife Refuge Visitation*
- The Urban Wildlife Refuge Program
- The *Refuge Annual Performance Plan* (RAPP)
- The *Regional Alternative Transportation Evaluations*
- The *National Alternative Transportation Evaluation*
- The Road and Trails Inventory Program (RIP)
- Visitor Use Surveys
- Service Asset Management Database (SAMMS)
- National Bridge Inventory (NBI)
- Safety and Crash Data
- U.S. FWS Multimodal Catalog database

FLTP Funding Allocations

Under the FAST Act, the Service's Transportation Program is authorized at $30 million annually for FY2016 – FY2020. Over the life of the FAST Act, the Service will receive $150 million, before take-downs and set-asides. The annual budget for the National Wildlife Refuge System is approximately $500 million per year. On an annual basis, the Service's authorized level represents only about 6% of the total program budget, which does not include that of the fish hatchery program. Yet, the Service's transportation asset portfolio represents about 50% of the replacement value of all constructed real property assets across the Refuge System.

The Program allocates FLTP funds to its regions based on visitation, road mileage, and the overall condition of those roads, as shown in Table 1. This funding formula may be examined over the next few years as the Service looks at innovative ways to pool infrastructure improvement funding to make significant improvements at priority field stations.

The remaining $7.4 million (not sub-allocated to regions) is divided into three additional categories whose amounts fluctuate slightly annually. First, $1.5 million is held by FHWA for "off-the-top" planning for the Service, and a range of $1.5M to $2M is the annual obligation limitation. Second, approximately $1 million is allocated to the Service's headquarters office for program administration and associated costs, as well as special studies. Lastly, approximately $3 million (depending on the annual obligation limitation) in annual authority is reserved at the Service's headquarters and used to "move-up" next year's projects if ready to go, fund cost estimate increases, and move forward other priority projects on the ground. The operation of the program in this manner has proven to be very effective.

	Region								
	1	2	3	4	5	6	7	8	Total
Number of Refuges Open to Public	50	46	62	111	66	97	16	40	488
Number of Urban Refuges	11	8	11	19	39	4	0	9	101
Road Mileage	469	818	375	1464	220	978	92	493	4908
Visitation (2015, millions)	7.9	7.3	7.1	14.3	5.7	3.2	1.5	1.5	48.5
Allocated Transportation Funding ($M)	2.41	2.6	3.48	5.51	1.74	4.54	0.55	1.76	22.6

Table 1 Number of Refuges, Road Mileage, Visitation, and FLTP Funds Allocated by Region

Notes -Refuges Open to the public refers to those stations reporting any visitation in FY 2015. The annual visitation at fish hatcheries is approximately 1.5 million.

If the Service's FLTP funds available were allocated by the Regional Offices per open refuge at the regional level, there is a range of approximately $26,000 (Region 5) to $57,000 (Region 2) that would be allocated per Refuge. Although the Service does not allocate funds on a unit level from HQ, this rough calculation shows the real constraints of the limited resources the Service's Transportation Program is operating with. The Service does supplement the FLTP funds with grants and other sources, but ultimately larger projects (greater than $3 million, but less than $25 million, and eligible for other programs) that will drastically improve access to Refuges are near impossible to complete. Further, the funding available to the overall Service Construction and Deferred Maintenance funding allocations from its Appropriated Budget have *decreased* in the past few years, further diminishing the possibility of diverting those resources to transportation needs.

In order to provide access to visitors, and to ultimately succeed in accomplishing the Service's mission and goals of fostering a "connected conservation constituency," the Transportation Program will need to increase its base funding. Until then the program will continue to streamline its planning process to more efficiently and effectively use FLTP funds, as outlined in this Investment Strategy.

Element 1 - FLTP System Definition

Under this section, please define the part of your transportation system to be included in your National Federal Lands Transportation Facility Inventory as defined in 23 U.S.C. Section 203(c). This includes public highways, roads, bridges, trails, or transit systems. (Note: By separate correspondence, FLH requests your detailed inventory data for roads, trails and transit systems. For bridges, partners use the NBIS as the official repository. For public highways and roads, minimum route identification data attributes were identified in a FLH memorandum dated September 30, 2014. Partners are at liberty to use additional route ID attributes than those reflected in the memorandum for their own purposes.) For this investment strategy, please describe your current status and planned efforts related to identifying your paved, native and/or gravel roads using the minimum route ID standards for your FLTP system only, i.e., not all FLMA-owned public roads. Address how your system definition strategies will support FHWA's minimum data standards and milestones.

All partners currently possess historic data that defines the location of your road network. If you plan to significantly change your approach over the next 3 years, please describe your efforts and the benefits you anticipate.

With approximately 5,000 miles of public roadway, 2,100 miles of trails, 402 public-use bridges and 14 transit systems, the Service has a robust multimodal transportation system. Table 2 shows the total transportation facilities included in the Service's FLTP inventory.

	Region								
	1	2	3	4	5	6	7	8	Total
Public Roads - Paved (miles)*	53	106	81	111	52	39	3	10	455
Public Roads - Unpaved (miles)*	416	712	294	1353	168	939	89	483	4453
Trails - Paved (miles)**	11	22	53	15	22	6	0	4	132
Trails - Unpaved (miles)**	199	245	243	559	349	104	147	171	2018
Public Bridges (num)***	38	41	80	111	21	93	3	15	402
Transit Systems (num)**	0	5	3	2	2	0	0	2	14

Table 2 U.S. Fish and Wildlife FLTP Inventory
Data sources: *Road Inventory Program, 2014, **Multimodal Catalog, ***Internal bridge data

The Transportation Program collects road data using its Road Inventory Program (RIP). Through the RIP, the Service is able to visit and collect data from 20% of the field units every year, for a complete roads dataset every 5-6 years with data processing. The last complete cycle was finished in 2014. Since 2014, the Service has worked to re-engineer the RIP to better align with FHWA performance management practices and to more fully connect to internal databases. Those internal systems are the "systems of record" and to which the Service reports to the Department of the Interior.

The road data is compiled by FHWA and used by the Service's Transportation Program to plan and implement projects nationwide. This process has been effective in creating a comprehensive dataset that meets the minimum data standards and milestones. Data collected include condition of pavements, geometrics, and feature locations on existing roads, parking and roadway assets.

Moving forward, the Service will begin collecting road data using a Services Application for Material Assessments (SAMI). SAMI is an application that will convert the data collected during the RIP process into a format that can be used in the Service-wide Asset Maintenance Management System (SAMMS). Having the most recent and complete road data in SAMMS will make it easier to track work orders and spending amounts that are charged to FLTP funded projects on Service transportation assets. It will also make planning and prioritizing projects a more fluid, informed process, increasing efficiency of the Transportation Program.

In closing, we do not foresee significant changes beyond implementation of the new process, following the guidance of the FHWA and oriented to address our own data cleanup and management needs.

Element 2 – Secretary of Transportation's Performance Goal Areas

2.1 State of Good Repair

In your strategy, please describe the steps you will employ to collect all or partial segments of your FLTP using the road standards above. If a transition strategy is anticipated, please describe your approach including timeframes.

If applicable and available, please include your baseline FLTP paved, native and/or gravel road condition(s) information using Excellent, Good, Fair, and Poor or other rating approach now employed. Using the FAST authorization sums as an indicator, please include your target condition(s) of the entire FLTP road inventory at the close of FY2020. Please differentiate between paved and unpaved roads

FHWA is very cognizant of the inter-relationships of road asset data to other asset management and maintenance systems employed by FLMAs, i.e., evolving to a new standard has larger internal budgeting implications. We are fully prepared to work with each partner individually to tailor a plan that is realistic, scalable and acceptable to all parties using the methodologies below.

As mentioned in Element 1, the Service owns and maintains approximately 5,000 miles of public-use roads. Table 3 shows the conditions of paved and unpaved public roads, by miles, for the entire Service as of the completion of Cycle 4 in 2014. Figures 2 and 3 represent the road condition as a percentage of total road mileage, by surface type (paved and unpaved, respectively), in a given region. Nine percent of the total public roads are paved. Of all of the public roads, approximately 60% are in excellent or good condition. According to the most recent RIP data, the Service is maintaining an average pavement condition rating (PCR) of 62, and has set a goal to increase the PCR to 80 or greater *over the next 20 years*. This goal is very much contingent upon receiving adequate new funding in the next transportation authorization and beyond. Previous needs as documented in the Service's "Transportation Needs and Planning for the Future – June 2013" will be updated over the next three years to reflect current needs and costs.

	Regions									
	1	2	3	4	5	6	7	8	Total	Pcnt of Total
Paved										
Excellent	4	9	17	22	3	8	0	0	63	14%
Good	0	8	4	2	1	3	0	0	19	4%
Fair	8	76	47	72	25	25	2	8	262	58%
Poor	41	13	14	15	23	3	1	2	111	24%
Sub-Total	**53**	**106**	**81**	**111**	**52**	**39**	**3**	**10**	**455**	100%
Unpaved										
Excellent	4	196	165	250	19	237	0	34	906	20%
Good	97	351	109	831	108	340	37	286	2158	48%
Fair	137	117	16	209	35	190	33	103	840	19%
Poor	178	48	3	63	6	171	20	59	549	12%
Sub-Total	**416**	**712**	**294**	**1353**	**168**	**939**	**89**	**483**	**4453**	100%
Total	**469**	**818**	**375**	**1464**	**220**	**978**	**92**	**493**	**4908**	**100%**

Table 3 Road Conditions by Region
Source: Five Year RIP Cycle Completed 2014

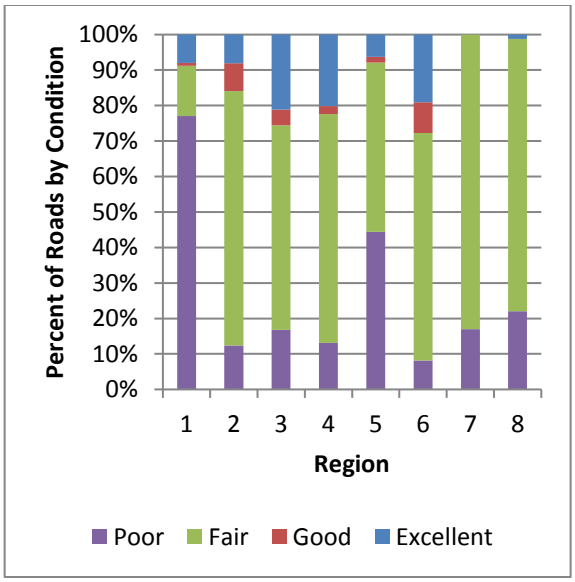


Figure 2: Paved Road Condition by Region

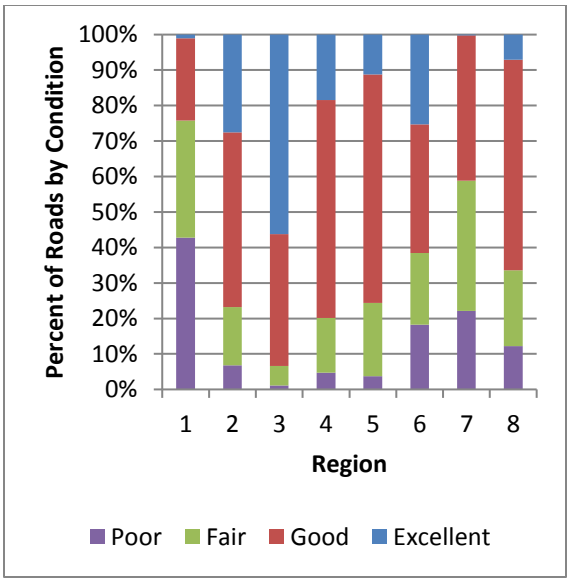


Figure 3: Gravel/Native Surface Road Condition by Region

Effectively, the Service's Transportation Program will be operating under the same FLTP funding (between $29 and $30 million) for over 15 years – from the passage of SAFETEA-LU in 2005 through the FAST Act's final year of 2020. The program did not see an increase with the signing of the FAST Act, and will continue to be funded at $30 million for the next five years. The Service will not be able to maintain a state of good repair for its roads with these funding levels. With competing demands for funding (urban accessibility, popular trail improvements, etc.), the Service is likely to fall behind on maintaining its overall condition rating for roads.

To make sure the Service is able to improve access while maintaining a state of good repair, the Transportation Program has identified in its LRTP various ways of becoming more efficient. For example, the program is going to decommission less-used roads to spend less on maintaining them. It is also going to prioritize larger projects that will have a greater impact on access than the sum of several smaller projects.

With the successful launch of the new RIP process in FY 2016, the Service will be able to more effectively and efficiently gather data on overall road condition and associated features. With stagnant funding levels, however, it will be extremely difficult for the Service to maintain current condition levels.

2. 2 Safety

Please describe your plans to collect and report safety crash data (fatalities and serious injuries) data to influence FLTP programming decisions. The extent and type of safety crash data partners collect vary and may include information on: number of fatalities and/or serious injuries, location of crashes, nature of crash (run-off-the-road, intersection, wildlife collision), causal factors (infrastructure-related and/or behavioral (alcohol related, visual impairment). For partners who may have very few crashes and contend transportation safety is not a high risk area on their lands, please include evidence-based processes, e.g., safety data, incident management procedures, local law enforcement reports, you employ to support this conclusion. Put plainly, how do you know if you do/do not have a safety problem on your FLTP inventory?

Unlike many State DOT programs, the Service's Transportation Program generally serves transportation facilities with relatively low speeds and low volumes of traffic. Therefore, the benchmark for safety on Service facilities is higher than what many State DOTs can set. The Service is working towards zero fatalities and zero crashes on its internal transportation system (from National LRTP), for both visitors and Service staff. Some common safety issues for the Service's transportation program include ingress and egress at entrances to refuges, vehicles running off of roadways, animal strikes, and severe weather.

Currently, the Service relies on collision data collected from the Service's Law Enforcement (LE) and the national Fatality Analysis Reporting System (FARS) for predominately crashes on connecting facilities. The Service also has additional empirical and anecdotal safety analysis included in the Regional Alternative Transportation Evaluations (RATEs) and other studies.

The Service is just emerging from several attempts to standardize crash data collection across the Department, and will soon be able to report traffic incidents from both 2014 and 2015 calendar years. In 2014, there were 199 traffic incidents reported by Service law enforcement. The data fields collected include:

- Incident number
- Officer name
- Officer badge
- Date
- Refuge station
- Latitude/longitude

Recognizing the limits of these data fields, the Transportation Program has been working with Law Enforcement to increase data collecting procedures to include (in addition to those listed above):

- Severity (fatality, injury, property damage)
- Time of day
- Route name/number
- Crash location (i.e. on roadway, at intersection, etc.)
- Cause of crash (i.e. speeding, impaired driver, obstructed view, etc.)
- Lighting conditions
- Weather
- Type of collision (i.e. angle, rear end, head-on, sideswipe)
- Object struck (rock, ditch, bridge structure, tree)
- Vehicle-wildlife collisions
- Road characteristic (straight and level, on curve, etc.)

The Service identified these additional data fields to study trends in recurring situations. For example, latitude/longitude data can reveal hotspots where accidents are occurring more frequently. Collecting data on the cause of crashes could highlight recurring problems that the Service needs to address; if there are many accidents caused by blind curves, for example, the Service may need to adjust its roadway design standards to include longer sight lines. Discussions are underway between the Transportation Program and Law Enforcement staff on collecting these more detailed data features.

In addition to enhanced data collection, the Service has begun to develop an improved Safety Management System (SMS) to store safety data. The SMS provides a system to document these concerns and assist the Service with prioritizing safety issues, developing countermeasures, and tracking the impact of safety improvements completed at refuges and hatcheries.

The SMS provides a more formal process for ensuring that the Service reviews all available safety data each year and develops countermeasures to address safety concerns. Safety data includes crash data as well as surveys, studies, and other efforts to discern areas on the Service's transportation facilities where safety concerns may exist, even if no crashes have been identified. The Service will seek to address all areas with safety concerns through appropriate safety improvements, and will use the SMS to assist in identifying, prioritizing, mitigating, and tracking the results.

In addition to the SMS, the Service is also working toward completing a Safety Analysis Toolkit (SAT). The SAT will help unit staff identify problem areas and suggest best practices to help improve safety.

While the on-going SMS effort is on hold until the Transportation Program is able to resolve data reporting issues with law enforcement, the Service is being proactive by implementing an on-going Road Safety Audit/Safety Assessment Program. Completing Road Safety Audits (RSA) is one of the seven FHWA's proven safety countermeasures. The Service set a target of completing five RSAs annually (approximately $35k for each RSA), which equals approximately $175,000 annually in planning funds set aside to support this effort.

One concrete safety countermeasure employed at many NWRs over the past few years is the addition of ingress and egress lanes at critical locations. For example, the principal ingress of San Luis NWR in California is located directly off a state owned highway. Because of the lack of acceleration/deceleration lanes and turn pockets, visitors and staff would have to make dangerous maneuvers at high speeds to access the refuge. The Service's Transportation Program worked with CalTrans to build access improvements from both northbound and southbound approaches, increasing safety for the over 100,000 yearly visitors and administrative personnel.

2.3 Bridge Condition

FAST officially allows the continued use of FLTP funds to be used on public bridges outside your FLTP inventory. Please provide the baseline number of public bridges owned and operated by your agency including public bridges outside your FLTP inventory. This number should mirror the number in the National Bridge Inventory System. Within the FY2016 baseline data, please include the number or percent of bridges that are structurally deficient. Please include the target number and percentage of structurally deficient bridges at the conclusion of FY2020.

All Service bridges are inspected according to the National Bridge Inspection Standards and the draft U.S. Fish and Wildlife Service Bridge Inspection Manual. The information gathered and generated as a result of the field inspections are recorded in the cloud based Bentley InspectTech bridge inspection management system. Facility Management Coordinators (FMCs) and Transportation Coordinators in each region extract the information from the Bridge Inspection Management System (BIMS) and it informs the Service's asset management system, which is used to prioritize repair and rehabilitation work for bridge and other asset projects.

Table 4 shows all of the Service owned bridges as of 2015. The bridges included in the National Bridge Inventory (NBI) are public bridges that are over 20 feet long. Non-NBI bridges are all other public and non-public use bridges over 10 feet long. The Service has 301 NBI bridges, with an additional 101 non-NBI public-use bridges. Of the 402 public bridges owned by the Service, 5 are poor/deficient, representing just 1.2% of the public bridges.

The Service also maintains/operates an additional 33 bridges that are owned by other entities and are not shown in this table. Of those 33, 2 are poor/deficient.

The Service has 253 of its 402 (62%) public bridges in good condition. The Transportation Program has set a goal in the LRTP to reach 95% in good condition by the end of 2035. This will involve repair or rehab of 129 bridges, or approximately 6 bridges per year. Improving and or maintaining bridges that are in fair or good condition is a critical bridge management strategy that the Service employs. Keeping maintenance of bridges up to a certain standard will reduce the likelihood of bridge condition migrating to poor or deficient condition.

	Region										
	1	2	3	4	5	6	7	8	9**	FWS Totals	Pcnt of Total
NBI Bridges*											
Good	9	12	41	72	7	35	2	10	0	188	62%
Fair	18	13	30	23	10	14	0	2	0	110	37%
Poor/deficient	0	0	0	2	0	1	0	0	0	3	1%
Sub-Total	**27**	**25**	**71**	**97**	**17**	**50**	**2**	**12**	**0**	**301**	**100%**
Non-NBI Bridges											
Public											
Good	5	7	6	11	2	31	1	2	0	65	64%
Fair	5	9	3	3	1	12	0	1	0	34	34%
Poor/deficient	1	0	0	0	1	0	0	0	0	2	2%
Sub-Total	**11**	**16**	**9**	**14**	**4**	**43**	**1**	**3**	**0**	**101**	**100%**
Non-Public											
Good	4	15	26	50	8	46	1	16	0	166	65%
Fair	5	7	11	26	4	17	1	6	1	78	31%
Poor/deficient	1	2	0	6	1	0	0	0	0	10	4%
Sub-Total	**10**	**24**	**37**	**82**	**13**	**63**	**2**	**22**	**1**	**254**	**100%**
Additional Closed Bridges											
Sub-Total	**2**	**5**	**9**	**11**	**3**	**7**	**0**	**5**	**0**	**42**	**N/A**
All Bridges Summary											
Good	18	34	73	133	17	112	4	28	0	419	60%
Fair	28	29	44	52	15	43	1	9	1	222	32%
Poor/deficient	2	2	0	8	2	1	0	0	0	15	2%
Closed	2	5	9	11	3	7	0	5	0	42	6%
Total - All FWS Owned Bridges	**50**	**70**	**126**	**204**	**37**	**163**	**5**	**42**	**1**	**698**	**100%**

*NBI bridges are bridges that are greater than 20 feet long and open to the public.

** Region 9 is the FWS National HQ office and the National Conservation Training Center (NCTC)

Table 4 Bridge Condition by Region, 2015

Source: Bridge Inspection Management System

2. 4 Trail Condition

Trails are an important means of transportation and visitor experience across Service-managed lands. Maintaining a state of good repair on the Service's trails is imperative to providing the multimodal access that it is striving to improve. Trails not only provide access to refuges and fish hatcheries, but also allow for movement within the units. Quality trails allow Refuges to provide the learning opportunities for this and the next generation of conservationists. Without them, visitors would not be able to connect with nature in the way the Service wants them to.

The Service owns and maintains 2157 miles of trails. Table 5 shows the condition of those trails by surface type (paved and unpaved). In total 62% of Service trails are considered to be in excellent condition.

	Regions										
	1	2	3	4	5	6	7	8	9*	Total	Pcnt of Total
Paved (miles)											
Excellent	9	9	23	15	21	6	0	4	2	89	66%
Good	1	0	2	0	0	0	0	0	0	3	2%
Fair	0	11	28	0	0	0	0	0	0	40	30%
Poor	0	0	0	0	0	0	0	0	0	0	0%
Unknown	0	2	0	0	1	0	0	0	0	3	2%
Sub-Total	**11**	**22**	**53**	**15**	**22**	**6**	**0**	**4**	**2**	**134**	**100%**
Unpaved (miles)											
Excellent	103	107	172	396	231	75	101	106	4	1295	64%
Good	0	0	5	5	7	0	0	0	1	19	1%
Fair	8	14	9	26	33	5	33	0	0	128	6%
Poor	3	3	9	5	1	3	13	0	0	36	2%
Unknown	86	121	49	127	77	20	0	66	0	545	27%
Sub-Total	**199**	**245**	**243**	**559**	**349**	**104**	**147**	**171**	**5**	**2022**	**100%**
Grand Total	**210**	**268**	**296**	**575**	**371**	**110**	**147**	**175**	**7**	**2157**	**N/A**

* Region 9 is the FWS National HQ office and the National Conservation Training Center (NCTC)

Table 5 Trail Condition by Region
Source: FLTP Multimodal Catalog

Elements 3 and 4 - Secretary of Interior's or Agriculture's Performance Goals and Additional FLTP Criteria

1. Please identify your Department's and/or agency's related performance goals. Within the description and if available, please include baseline data as of October 1, 2015 and your targets at the end of FY2018.

2. Describe how you incorporate, or will incorporate, DOT, DOI and/or DOA performance goal information into your performance-based planning and programming processes.

3. Please provide information (list and/or maps) that demonstrates the linkages between your high use federal recreation areas and/or federal economic generators and your FLTP facilities that provide access to them.

'Working with others to conserve, protect and enhance fish, wildlife, plants and their habitats for the continuing benefit of the American people.'

-U.S. Fish and Wildlife Service Mission

Although conservation of habitat for fish and wildlife is the main mission for the U.S. Fish and Wildlife Service, the Service also focuses heavily on providing learning and engagement experiences for the public. It also supports active recreation such as hunting and fishing for the benefit of the visiting public. Inviting current and future conservationists to the refuge system is the only way to achieve that mission, and providing a safe, comfortable, equitable, efficient transportation system is the way to get them there.

The Service uses its transportation systems to work toward achieving many of its goals. The three primary sets of goals the Transportation Program addresses are:

- The "Six Strategic Goals" in the Long Range Transportation Plan;
- The Refuge Annual Performance Plan; and,
- The Urban Refuge Program's Standards of Excellence

The following sub-sections explain each set of goals and how the Transportation Program is working to achieve them.

Six Strategic Goals – LRTP

The Service is working toward completing a National Long Range Transportation Plan and an LRTP for each of the eight regions. All of the previous planning efforts resulted in the following goals/objectives that are generally consistent across all of the LRTPs:

Asset Management Goal

Operate and maintain a functional, financially sustainable and resilient transportation network to satisfy current and future land management needs in the face of a changing climate.

Access, Mobility, and Connectivity Goal

Ensure that units open to public visitation have adequate access, mobility and connectivity for all potential users, including underserved, underrepresented, and disadvantaged populations.

Coordinated Opportunities Goal

Seek joint transportation opportunities that support the Service's mission, maximize the utility of Service resources, and provide mutual benefits to the Service and its external partners.

Safety Goal

Provide a transportation system that ensures Service staff and visitors traveling to and within Service lands arrive at their destinations safely.

Visitor Experience Goal

Enhance the visitor experience through improvement and investment in the transportation network.

Environment Goal

Transportation infrastructure will be landscape appropriate and play a key role in the improvement of environmental conditions in and around Service lands.

To reach the goals in the LRTP, the Service identified measurable objectives with targets along a variety of time points. Achieving the objectives set out in the LRTP was calculated to cost an estimated $95 million annually (annual program need for MAP-21 reauthorization papers). As shown in Table 6, a substantial growth in funding will need to occur for the Transportation Program to fully address all of its needs. Table 7 outlines all of the objectives and targets set out in the LRTP. The Transportation Program has used existing data to inform the baseline conditions for many of the objectives. For those that read, "baseline established at year one," the Service will begin to measure upon official adoption of the LRTP, which is expected to happen in the Spring of 2016.

The Service will continue to collect road, bridge, safety, and trail data to track success as described in previous sections of this report.

Program Area	$30M Current Funding	$60M Enhanced Program	$95M Fully Implemented Address all Needs
Pavement Roads and Parking Lots	$17.5M	$37M	$57M
Bridges	$2M	$4M	$6M
Large Projects	$2.5M	$5M	$15M
Environmental Enhancements	$2M	$4M	$6M
Trails + Transit	$2M	$4M	$5M
Transportation Planning	$1M	$3M	$3M
FHWA Admin.	$3M	$3M	$3M
20 yr Deferred Maintenance	~ 2-3% per yr Reduction ~ 40-60% Reduction in 20 yrs		~ 5% per yr Reduction ~ 95% Reduction in 20 yrs

Table 6 National LRTP Objectives and Performance Targets/MAP-21 Reauthorization Funding Needs

Sources: Transportation Needs and Planning for the Future 2013, FWS Facilities Branch Annual Report 2013, FHWA Pavement Management Analysis 2013

		Current Performance	20 Year Target Performance
Coordinated Opportunities Objectives:	▪ Increase the total number of official Fish and Wildlife partners and friends groups year to year	230 Unique organizations	Plus 10% nationally
	▪ Increase the percentage ratio of supplemental funding to base funding for projects and planning	23% or about $7M/yr. (10 yr. avg)	40%
	▪ Increase the yearly number of transportation projects using multiple funding sources	Baseline established at year 1	5 per year nationally
Asset Management Objectives:	▪ Increase percentage of road miles in good or excellent condition	62% RIP Cycle 4	80% or higher
	▪ Maintain percentage of trail miles in good or excellent condition	84% RIP Cycle 3	Greater than or equal to current performance
	▪ Increase percentage of bridges in good or excellent condition	65%	95% or higher
	▪ Increase percentage of programmed FLTP projects that have been scored and prioritized via a standardized selection process	None (0%)	50% in 2 years, 100% in 5 years
Safety Objectives:	▪ Complete safety assessments for highly visited refuges	Baseline established at year 1	5 per year nationally
	▪ Reduce number of transportation related fatalities that occur on refuges and hatcheries	2 fatalities in past 5 years	Zero fatalities
	▪ Reduce number of wildlife/vehicle collisions	Baseline established at year 1	Zero collisions
Environmental Objectives:	▪ Increase percentage of transportation projects that track the elements of the Roadway Design Guidelines through the Project Acknowledgements checklist	Baseline established at year 1	60% at year 1, 100% by year 5
	▪ Increase the number of projects that enhance aquatic or terrestrial organism passage	Baseline established at year 1	5 per year nationally
	▪ Complete assessments on existing wildlife crossings and aquatic passages	Baseline established at year 1	2-3 per year nationally
	▪ Reduce or offset the carbon footprint of the transportation network (The Climate Leadership In Refuges, or CLIR tool, will provide guidance with this)	Baseline established at year 1	20% below 2010 baseline
Access, Mobility and Connectivity Objectives:	▪ Increase the total number of multi-modal connections to refuges and hatcheries (The pending Multi-Modal Catalog, being drafted by the Volpe Center, will provide guidance with this)	Baseline established at year 1	3 per year
	▪ Increase the number of multi-modal transportation options on refuges and hatcheries (Also, see Multi-Modal Catalog)	Baseline established at year 1	5 projects per year
	▪ Increase number of projects that improve access at main ingress/egress points	Baseline established at year 1	2-3 projects per year
Visitor Experience Objectives:	▪ Integrate wayfinding and ITS into transportation projects	Baseline established at year 1	2-3 projects per year
	▪ Maintain or improve transoprtation satisfaction ratings (Based on National Visitor Survey)	75% 'Highly Satisfied' with 'Very Important' elements	Greater than or equal to current performance

Table 7 National LRTP Objectives and Performance Targets
Source: PLAN 2035: National LRTP

Refuge Annual Performance Plan

In addition to the "Six Strategic Transportation Goals" detailed in the LRTP, the Service measures its performance on an annual basis in its Refuge Annual Performance Plan (RAPP). The RAPP does not include measures on how visitors access Refuges, but it does reveal ways visitors use the Refuges, which may have implications on transportation facilities. The RAPP is designed to collect performance measures and planning targets from individual field stations. RAPP data are collected annually in August and are finalized by the end of September.

Table 8 shows a selection of RAPP performance measures for years 2010 and 2015. The measures shown here were selected because they may have implications on the FLTP inventory.

	2010	2015	Pcnt Change '10-'15
Total Number of Visitors	44,482,399	48,477,661	9%
Demand on Transportation Facilities			
Number of foot trail/pedestrian visits	14,224,391	15,482,773	9%
Number of auto tour visits	9,938,359	11,336,286	14%
Number of boat trail/launch visits	2,580,474	3,054,138	18%
Number of bicycle visits	789,904	976,774	24%
Group Visits			
Number of education participants involved in on- and off-site environmental education programs.	651,806	681,031	4%
Number of interpretation participants in on- and off-site talks/programs	1,806,385	2,624,646	45%
Number of special events hosted on- and off-site	2,284	2,762	21%
Number of participants in special events on- and off-the refuge or administrative site	345,129	724,066	110%
Volunteer Efforts			
Number of volunteers	42,242	36,211	-14%
Volunteer hours for maintenance	260,708	262,944	1%

Table 8 Refuge Annual Performance Plan Measures
Source: 2015 Refuge Annual Performance Plan

Visitation has steadily increased over the last 5 years (9% total). There has been an increased demand on all of the transportation facilities studied in the RAPP, most notably in the number of bicycle visits (increased 24% over five years). The Service has also attracted a growing number of group activities that creates a strain on facilities that receive larger visitation at one time. Although the number of volunteers has decreased by 14% over the past five years, the Service is continuing to see a heavy reliance on using volunteers for maintenance activities. This could show that maintaining our transportation facilities is a priority to Refuge staff as they are continuing to focus volunteer efforts on maintenance. It also shows that the Service is efficiently using resources for annual maintenance of transportation facilities.

Urban Refuge Program – Standards of Excellence

In 2011, the Service adopted a future vision called "Conserving the Future: Wildlife Refuges and the Next Generation." This product outlined 24 recommendations that challenged the Service to enhance the relevance of the NWR System in the face of a rapidly changing America. With over 80% of Americans living in urban areas, the Service has begun to prioritize maintaining relevance among urban audiences. The Urban Refuge Program adopted the following standards of excellence to help reach its goal of engaging urban communities in wildlife conservation in partnership with the Service:

1. Connect urban people with nature via stepping stones of engagement
2. Build partnerships
3. Be a community asset
4. Ensure adequate long-term resources
5. Provide equitable access
6. Ensure that visitors feel safe and welcome
7. Walk the sustainability walk

Transportation is a key element in many of the standards of excellence, particularly numbers 5, 6, and 7. Through implementation of the LRTP, the Transportation Program is working toward these standards of excellence. More specifically, the Service has identified 14 priority urban NWRs across the nation that could most benefit from improved investment, including providing multimodal access to the Refuges' neighboring communities.

As part of the larger Urban Transportation Program, the Service has begun the Urban Transportation Connection study, using a contractor through FHWA. Some of the key elements and deliverables of the study include:

- For seven refuges, an analysis of currently available modes of transportation to and from the refuge and an identification of gaps in the transportation modes and routes which may potentially serve those refuges. Development of a conceptual transportation plan that includes projects and strategies that ease the burden of transportation to the refuge or provides for the necessary improvements. This will focus on communities with underserved populations with key demographic factors (e.g., low vehicle ownership).
- To help the Service manage the access needs and elements required to allow Service to meet certain criteria into the future, the Consultant shall create an urban transportation template. Initially, this product has been envisioned to be a typical matrix to compile and manage information relevant to demographic, transportation data, and access needs. A web-based format will also be developed for broader information dissemination and in context with a nascent "urban hub" for the website being developed by the Service's Urban Team.
- Develop a preliminary assessment/hierarchy for the non-prioritized Refuges for future investigations.

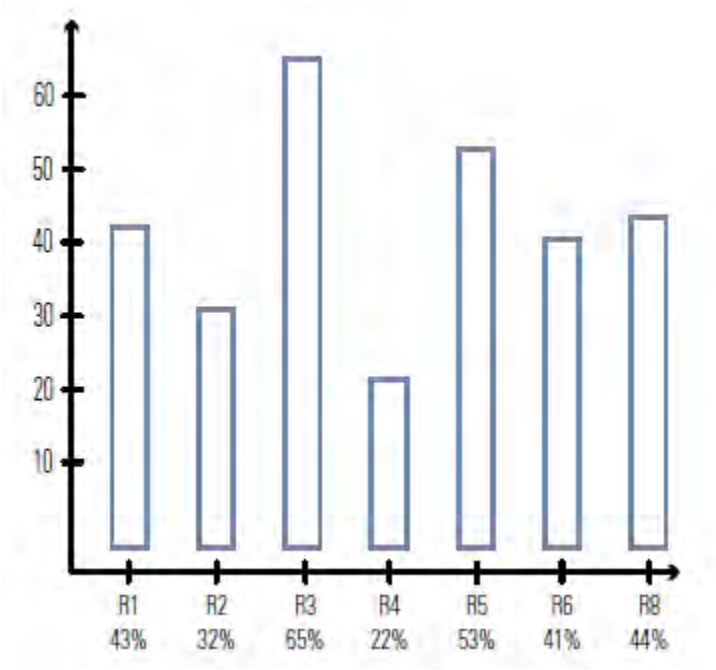
The study builds on previous efforts to understand the existing multimodal facilities on and around Refuges, data that the Service has collected and contributed into the Federal Lands Multimodal Catalog. By cataloguing the opportunities available, the gaps in transit and trail systems become apparent. Connecting to existing alternative transportation systems can improve the diversity of the audiences the Service reaches, cost less than developing new alternative transportation systems, and reduce the

environmental footprint. This effort is not only for urban Refuges, but also for rural Refuges that may have nearby rural transit, or intercity bus routes, or trail facilities.

The Service has already planned to obligate approximately $18.9 million to transportation projects at the urban NWRs for FY2016 through FY2018, and will continue to obligate funding to achieve these standards of excellence beyond FY 2018.

High-use Federal Recreation Areas and/or Federal Economic Generators

The Service prioritizes projects that improve access to Refuges that have the ability to attract large number of visitors, particularly from urban areas. This focused effort will help generate a significant amount of economic activity for neighboring communities. The Service studied the economic impact of NWR's in its Banking on Nature report, completed in 2013. It found that every $1 (of the total $500 million annually) appropriated to the National Wildlife Refuge System generates $4.87 in local economic activity.



The Transportation Program defines its high-use Refuges and Hatcheries as those that have a higher visitation than the average for the region (excluding sites with zero visitation). Figure 4 shows the percentage of transportation funds that are allocated to high-use recreation sites by region (excludes Alaska Region 7). The Transportation Program has allocated more than 50% of FLTP transportation funds to high-use sites in two regions. This benchmark will be analyzed into the life of the FAST Act, and be used to potentially change our strategy in the future.

Figure 4 Percent of Regional FLTP Allocations Programmed at High-Use Recreation Sites, 2011-2015
Source: National LRTP

A sampling of the highest visitation Refuges in 2015 is shown in Table 9. Several correlations could be made between investment in transportation spending, Refuge visitation, and economic activity. For now, the Service recognizes the allocations shown in Figure 4 as a baseline condition. The Service will move toward an increased percentage of transportation dollars being invested at high-use sites. Additional funding in the future will assist with this balance across a complex, national system of lands.

Refuge	Region	Number of Visitors in 2015
Oregon Islands NWR	Region 1	4,194,254.00
Havasu NWR	Region 2	3,200,000.00
Wichita Mountains Wildlife Refuge	Region 2	1,682,269.00
Upper Mississippi River NWR-McGregor District	Region 3	1,500,000.00
Pea Island NWR	Region 4	1,500,000.00
Chincoteague NWR	Region 5	1,381,907.00
Merritt Island NWR	Region 4	1,242,428.00
Kenai NWR	Region 7	1,139,200.00
J.N. Ding Darling NWR	Region 4	880,339.00
Crab Orchard NWR	Region 3	863,609.00

Table 9 Refuges with Highest Visitation in 2015
Source: 2015 Refuge Annual Performance Plan

Summary and Annual Progress

To successfully administer a performance based program, metric data is needed to gauge progress and/or shortcomings. FLMAs are asked to provide an annual accomplishment report that identifies the outputs and/or outcomes associated with Title 23 funds. In the report, partners are asked to share specifically the annual progress they are making in achieving their 5 year, FY2020 targets, i.e., is your annualized target data trending in the right direction to preclude any surprises at the conclusion of FY 2020. FLH understands certain performance data may not be fully available on an annual basis. At the conclusion of FY18, we highly encourage all partners to possess and report high quality, complete performance data since this data will be used to inform Congress, OMB and other stakeholders in preparation of the next Act. Guidelines on the format of the report are included here. Revisions were made to simplify the process and collect data once for multiple purposes.

From its infancy, the Service's Transportation Program has grown to a fully-implemented transportation program with many needs and demands on the program funding. The framework and structure are in place to excel into the future, and the Service is poised to realize funding growth in future authorizations and/or discretionary funding programs. Fundamental to a complete strategy is developing a project selection process borne out of the transportation planning process – one that espouses the investment strategies portrayed in this document and one that can be measured over time.

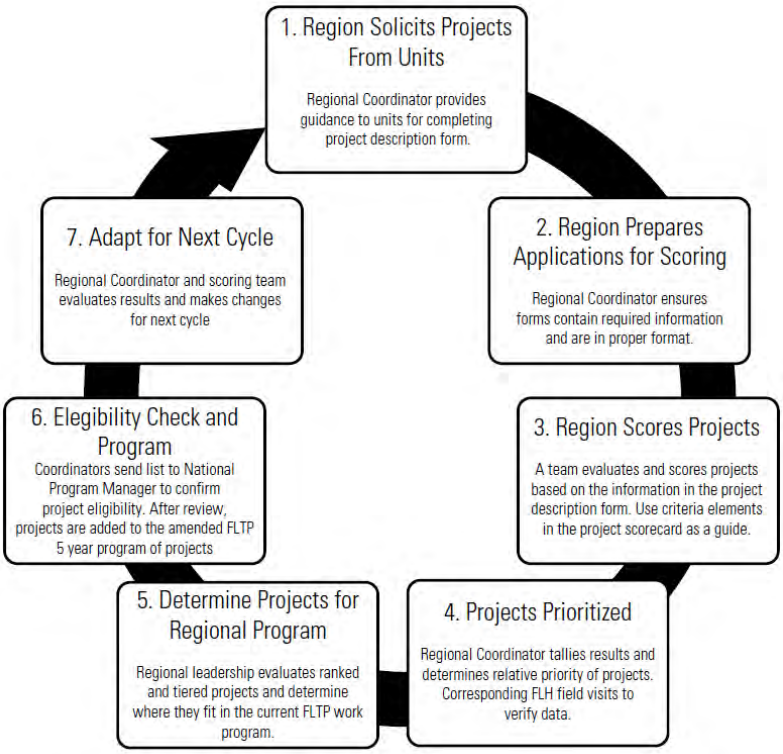


Figure 5 Project Selection Process

Through LRTP implementation, the transportation program is moving toward standardizing and unifying data collection and making finding and using data easier for staff across the Service. The Service will more quickly develop targeted reports with quantitative and condition data for each transportation asset. This will help regional and headquarters staff to identify and prioritize needs.

The program has also begun to standardize project selection, with an adopted regional project selection cycle (Figure 5). Lastly, the LRTP emphasizes increasing efforts to leverage FLTP funds through grants and partnerships to make each FLTP dollar go further.

The Service's Annual Transportation Program Accomplishments report will summarize the outlay and success of the annual authorization of Title 23 dollars to needed Service improvements – following the details outlined in the National LRTP and other guiding documents. This 2016-2020 investment strategy attempts to generalize and connect certain strategies and actions from the LRTP into a cohesive structure to pinpoint the theory or substantive direction behind certain actions. Figure 6 highlights the strategies that the Service will either be continuing to implement or introduce over the life of the FAST Act. We look forward to reporting to FHWA and other stakeholders on our success of implementing this new legislation with an eye to the next one to realize greater resources to grow the program.

Overarching Strategies

1. Emphasize a multimodal transportation system: improve access, mobility, and connectivity to and within NWR's with priority given to Under-served communities, willing partners, and/or Urban Refuges
2. Increase number of national priority projects that drastically improve access to field units
3. Increase number of projects utilizing strategic funding sources:
   - Leverage FHWA funds by using as a match for grants
   - Pool funds from other FWS sources including deferred maintenance and construction funds
4. Utilize advanced maintenance technology to stretch available dollars and improve condition
5. Allocate money to needs at field stations with above average visitation for the region

Roads & Parking Lots

1. Focus on primary access roads and popular auto tours
2. Improve condition of priority paved and unpaved roads and parking areas
3. Right-size road and parking facilities with improved traffic flow and visitor experience

Safety

1. Increase number of Road Safety Audits utilizing a strategic approach with limited planning money
2. Implement lower-cost fixes, e.g. improved signage, sight-lines, pavement striping, etc.
3. Work with local governments and willing DOT's to identify priority ingress/egress improvements across entire system

Bridges

1. Maintain bridges that are currently in fair or better condition to prolong life
2. Rehabilitate and replace priority bridges in poor/deficient condition with emphasis on the "Every Day Counts: Geosynthetic Reinforced Soil-Integrated Bridge System" and other techniques
3. Improve aquatic and terrestrial passage with all bridge and culvert projects

DOI Performance Goals and Additional FLTP Criteria

1. Invest in projects that satisfy the Six Strategic Goals included in the National Long Range Transportation Plan
2. Prioritize projects that achieve the Seven Standards of Excellence of the Urban Refuge Program
3. Invest in projects that enhance the visitor experience and improve the measures studied in the Refuge Annual Performance Plan
4. Prioritize projects with a larger impact on local economies

Figure 6 Investment Strategies Summary

APPENDIX VII WILDLIFE -VEHILCE APP PROJECT DESCRIPTION

FEDERAL LANDS WILDLIFE VEHICLE COLLISION DATA COLLECTION SYSTEM

Beta Test of Wildlife-Vehicle Collision Application

June 2017 - September 2017

INTRODUCTION

The National Park Service (NPS) and US Fish and Wildlife Service (FWS) have partnered on an effort to develop a Federal Lands Wildlife-Vehicle Collision (WVC) National Database, which is facilitated by the Western Transportation Institute – Montana State University (WTI). The WVC Data Collection System will be based on a smart phone application used for collecting data and will include the storage, retrieval, map-based viewing, and analyses of WVC data after its collection. The agencies seek to coordinate the use of the WVC Data Collection System with other federal land management agencies (i.e., Bureau of Land Management (BLM), USDA Forest Service (FS)) and with non-federal transportation agencies and organizations and other entities. It is envisioned that eventually the WVC Data Collection System can be used by trained volunteers and/or citizen scientists.

Four federal land management agencies (FLMAs) – NPS, FWS, FS and BLM – will help in the development of the WVC Data System by beta-testing the first version of the electronic data collection sheet based on ESRI's Survey 123 application. ESRI Survey 123 is already used by FWS and other federal agencies and thus the WVC Data Collection System can take advantage of existing agency contracts, IT staff familiarity with the app, and ESRI's existing cloud storage and retrieval capabilities. The ESRI Survey 123 application can be used by either Apple and Android smart phones or pads.

The WVC Data Collection System is designed to collect information on large animal crashes, which is the focus of the safety requirements of the transportation function of FLMAs, as well as carcass information of medium and smaller taxa, which is the focus of the FLMAs' conservation mission. It will have a function to record the amount of time (effort) taken to collect the data, so that surveys can be differentiated from opportunistic recordings, when the collector, by happenstance, records a dead animal. At this time, the system is not designed to collect successful road crossings by wildlife or live animals next to the road.

It is expected that the WVC data collected will be used to justify locations that require highway mitigation measures to provide motorist safety and/or for wildlife protection. It will illustrate how effective mitigation measures are, by providing data on before-mitigation and after-mitigation collision rates. The data will help to generate plans, programs, projects and reports, or portions thereof. The data may also be used to track species distribution on federal lands (particularly rare, uncommon, and at-risk species). There are many other uses of the WVC data for research, monitoring, management and evaluation, as well.

The WVC Data Collection System will:

- Provide for improved coordination of the FLMAs and surrounding stakeholders for capturing, reporting and assessing WVC data at a management unit, regional and national-scale.
- Allow for greater public stewardship of natural resources by allowing for reporting of WVCs by visitors and the general public.
- Enhance the understanding of WVC incident and species factors, improving transportation decisions, mitigation investments and natural resource protection.

The WVC Data Collection System will inform:

- Transportation planning
- Programming and budgeting
- Annual project development
- State Department of Transportation (DOT), Metropolitan Planning Organization (MPO) or other transportation authority highway projects and decisions effecting federal lands and resources
- The potential differences in the locations of WVC (safety) "hot spots" and important wildlife conservation sites
- The distribution and occurrence of species – often helpful regarding threatened, endangered and rare species

- Changes in WVC "hot spot" locations and other wildlife-highway information over time
- Research
- The general public via public information, education, and citizen science materials and reports.

BETA-TESTING

The next step of the project is to identify two management units for each of the four cooperating FLMAs – NPS, FWS, FS and BLM. These FLMA units will begin beta-testing the application in June 2017 and end in September 2017. We have received feedback from various agencies and people over the course of developing and creating the WVC data sheet for the ESRI Survey 123 app and we would like to receive feedback from those who will use it in the field before we finalize the application. The beta-testing and management unit reviews will be compiled and are very important to discover any weaknesses or inconsistencies before completing the final application.

CORE DATA FIELDS

The following list contains the ESRI Survey 123 data fields for the WVC surveys. There are two different surveys for the application; that is, an expert survey for trained volunteers and biologists, and a non-expert survey for non-biologists and the general public. Please keep in mind that this application gathers *national standard WVC data.* For project-specific work, research or other uses, additional data fields can added and core fields can be ignored or deleted.

EXPERT DATA COLLECTION

Group A: Core Data Fields

No.	Data Field	Data Field Details
1	Name of animal observed	Different Taxonomic Groupings will be listed to choose from
	Common Name	Type in Common Name
	Scientific Name	Auto-complete; list of North American species (mammals, amphibians, reptiles)
	Comments	Multiple line text box for any additional comments
2	More than one animal observed?	No and yes, if yes, type number in blank field
3	Animal(s) observed is dead or dying?	Dead, dying
4	Observer witnessed crash or found carcass	witnessed crash, found carcass, other
5	Is there an accident report?	yes, no, I don't know
7	Observer's proximity to animal when recording data	< 3 yards, 3 yards to 100 yards, > 100 yards (type distance in blank field)
11	Observer's confidence in their species ID	high, medium, low
12	Observer's mode of travel	a commercial vehicle, personal vehicle, agency vehicle, bicycle, pedestrian, other
13	Observation is part of a survey or random occurrence	Random or if survey, blank field allows observer to describe survey
14	Take a photo (geo-referenced)	1 photo - optional
15	Comments	Allow 240 characters for additional comments

EXPERT DATA COLLECTION

Group B: Automatic-Filled Data Fields- derived from registration when downloading app, core data fields or the mobile device's GPS

No.	Data Field (auto-filled, information included in registration)
1	Name of Data Collector/Collector ID
2	Data Collector's Email Address
3	Type/Expertise of Data Collector
4	Data Collector's FLMA Affiliation
5	Data Collector's State of Residency
7	Date Data is Collected
11	Time of Day Data is Collected
12	Incident Location
13	FLMA Region
14	FLMA Management Unit
15	State
16	County
17	City or Township
18	Road/Highway Identification
19	Number of Lanes
20	Posted Speed Limit

NON-EXPERT DATA COLLECTION

Group A: Core Data Fields

No.	Data Field	Data Field Details
1	Name of animal observed (common name)	different wildlife groupings
	Large Mammals	Bear, Deer, Moose, Caribou, Elk, Sheep, Other
	Med-Small Mammals	Cat, Dog, Coyote, Fox, Other
	Birds	Raptor, Songbird, Water birds, Other
	Reptiles	Snake, Turtle, Alligator/Crocodile, Lizards, Other
	Amphibians	Frogs/Toads, Salamander/Newts, Other
	Comments	Multiple line text box for any additional comments
2	More than one animal observed?	No and yes, if yes, type number in blank field
3	Animal(s) observed is dead or dying?	Dead, dying
4	Observer witnessed crash or found carcass	witnessed crash, found carcass, other
5	Is there an accident report?	yes, no, I don't know
6	Observer's proximity to animal when recording data	< 3 yards, 3 yards to 100 yards, > 100 yards (type distance in blank field)
7	Observer's confidence in their species ID	high, medium, low
8	Observer's mode of travel	commercial vehicle, personal vehicle, agency vehicle, bicycle, pedestrian, other
9	Observation is part of a survey or random occurrence	Random or if survey, blank field allows observer to describe survey
10	Take a photo (geo-referenced)	1 photo - optional
11	Comments	Allow 240 characters for additional comments

NON-EXPERT DATA COLLECTION

Group B: Automatic-Filled Data Fields- derived from core data fields or the mobile devices' GPS

No.	Data Field
1	Name of Data Collector/Collector ID
2	Data Collector's Email Address
3	Type/Expertise of Data Collector
4	Data Collector's FLMA Affiliation
5	Data Collector's State of Residency
6	Date Data is Collected
7	Time of Day Data is Collected
8	Incident Location
9	FLMA Region
10	Agency Management Unit
11	State
12	County
13	City or Township
14	Road/Highway Identification
15	Number of Lanes
16	Posted Speed Limit