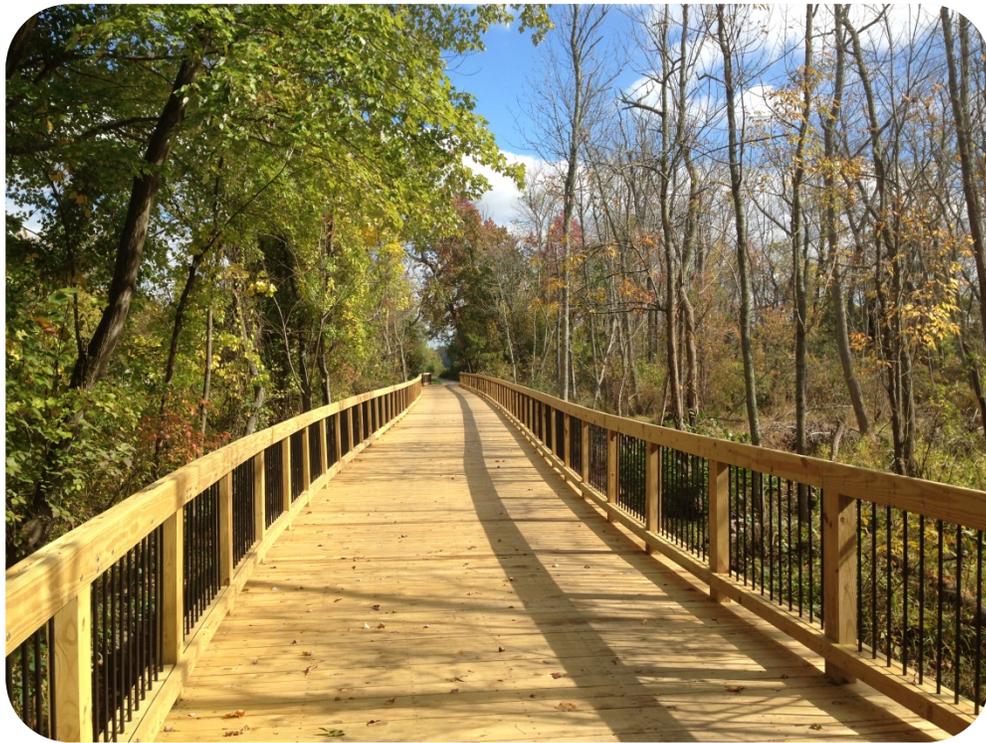


PARTNER FEEDBACK REPORT 2015



U.S. Department of Transportation
Federal Highway Administration
Eastern Federal Lands Highway Division

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Introduction

The Federal Highway Administration (FHWA), Eastern Federal Lands Highway Division (EFLHD), is committed to serving the needs of our Partners and we have been engaged in an ongoing evaluation and improvement process since 1993. As part of that process, we have collected survey information from our Partner Agencies and used their responses to improve our products and services. This Report has been developed to provide a summary of the feedback we received in relation to our program and project delivery, including identification of proposed improvement actions, and to report on some of our significant accomplishments.

In Fiscal Year (FY) 2015, we distributed the following web-based surveys:

- Program Administration (Program Support Throughout Project Delivery)
- Environmental Collaboration
- Project Development (Design Process)
- Completed Projects (Construction Process)

The results from those surveys have been reviewed and actions have been implemented to correct and/or improve upon our FY 2015 scores. We appreciate our many Partners; and value the feedback you provide. The adjustments and adaptations we implement are our efforts to better meet your needs in the delivery of your program of projects.

In FY 2015, we awarded 45 projects at over \$92.55 million in construction contracts from which survey solicitations were requested. We received comments from the following Agencies:

- National Park Service
- U.S. Fish and Wildlife Service
- U.S. Forest Service
- State Departments of Transportation
- US Army Corps of Engineers
- Other Agencies

Comments are evaluated in consideration of the Program activity addressed and the partner representative from whom they were received. Our Staff often contacts the representatives to clarify individual comments.

We continue to reach out to our partner agencies through site visits, feedback sessions, program status updates, and teleconferences for the continual improvement of our program and project delivery services. In FY 2015, we had partner satisfaction scores at or above target for Project Development, Environmental Collaboration and Completed Construction surveys, while Program Administration stayed below target this year. The overall satisfaction score for FY 2015 is 85%, putting the overall score at our target of $\geq 85\%$.

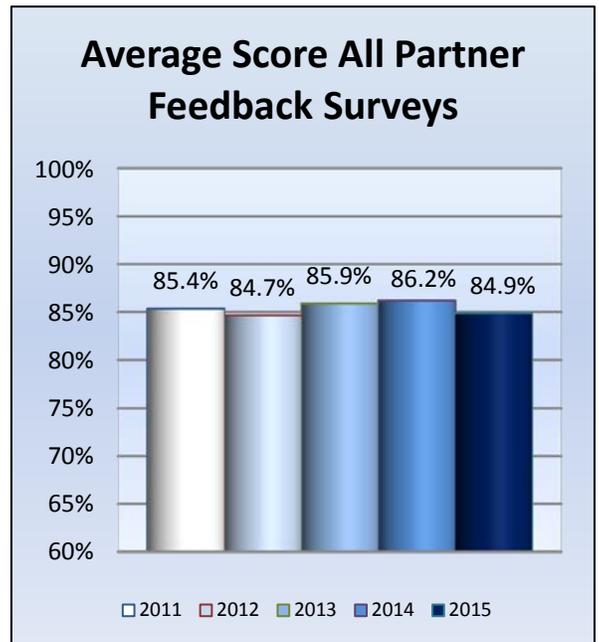
We would like to take this opportunity to extend our thanks for your participation and support of our efforts toward continued improvement. Your feedback is vital in the successful delivery of the Federal Lands Highway Program (FLHP) and is greatly appreciated. If you have any questions, or additional comments, please contact Mr. John Dixon, Division Quality and System Manager, at 703-404-6370 or by email John.Dixon@dot.gov.

Survey Approach

We measure the satisfaction of our Partner Agencies at the major milestones of the program and project delivery processes. The surveys are sent throughout the calendar year at the completion of the environmental assessment, project design and construction phase, to gauge overall administrative support. Survey respondents include representatives of our Partners and other Agencies directly involved with delivery of the Program.

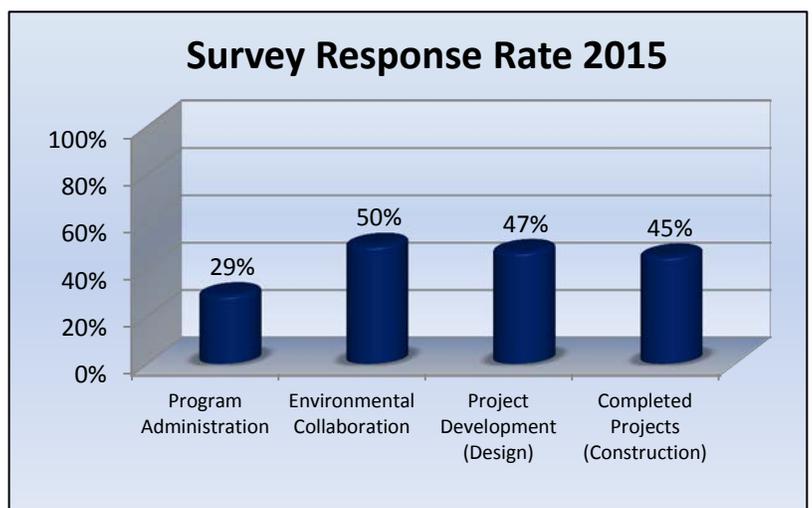
Survey scores have fluctuated over the last several years and EFLHD's value of 84.9% in 2015 continued this trend. While we are at our goal of $\geq 85\%$ and have fallen below last year's score, the overall value has remained statistically the same for several years now. Each of the four components that comprise this overall score is addressed in detail on subsequent pages of this report.

The average value for all partner surveys is composed of the 2015 Program Administration (Program Support throughout Project Delivery) at 79.8% with a response rate of 29%. The Environmental Collaboration Survey at 88.2% with responses of 50%. The Project Development (Design) survey returned results at 84.8% and a response rate of 47.4%, and the final component is the Completed Projects (Construction) Survey that contributed 86.9% and had a response rate at 45.5%.



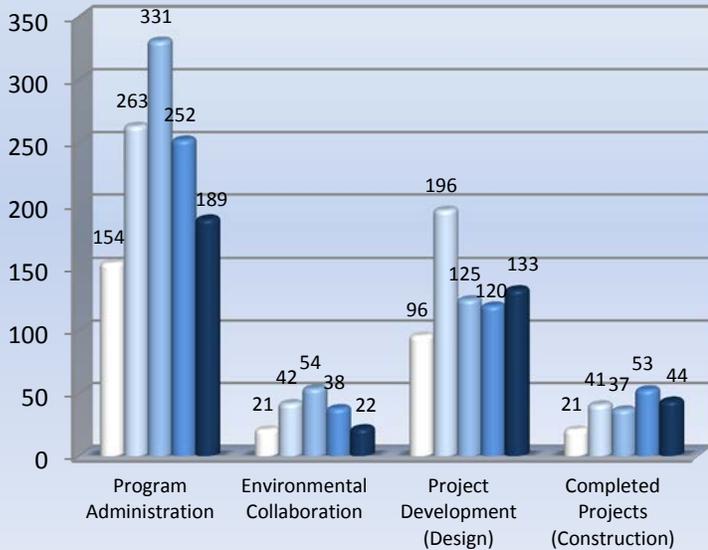
Our target value aligns with the Federal Lands Highway and FHWA goals which strive for an 85% or greater for all external Partner Satisfaction surveys.

The combined rate of return for all four survey areas in FY 2015 was only at 38%; this was a drop from the previous year's value of 53%. Solicitation efforts remained high with over 388 invitations for feedback distributed but only 148 were returned. At a population size nearing 400 we need to get an additional 40 responses for our percentage returned to be statistically desirable and have a confidence level of 95%, so efforts to improve will be continuing. In 2016 branch office personnel will be contacting respondents to improve response rate over 2015 values. We continue to ask for your valued input to this improvement effort at EFLHD and welcome feedback that can assist us in increasing our customer satisfaction.



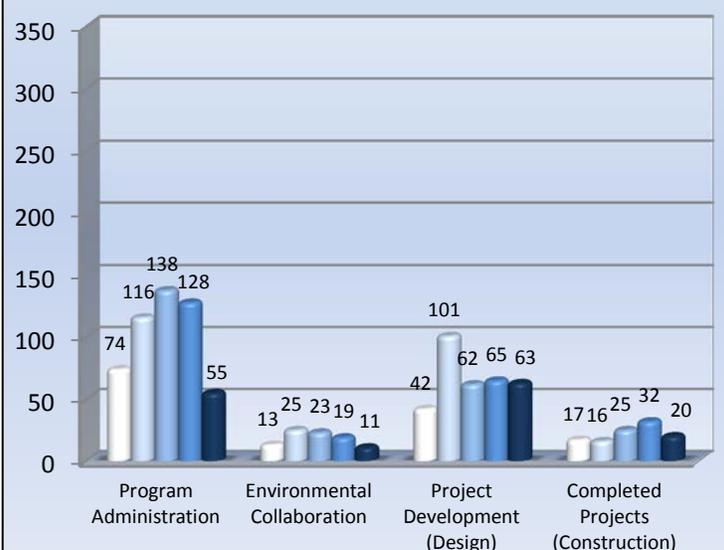
of Survey Invitations 2015

2011 2012 2013 2014 2015



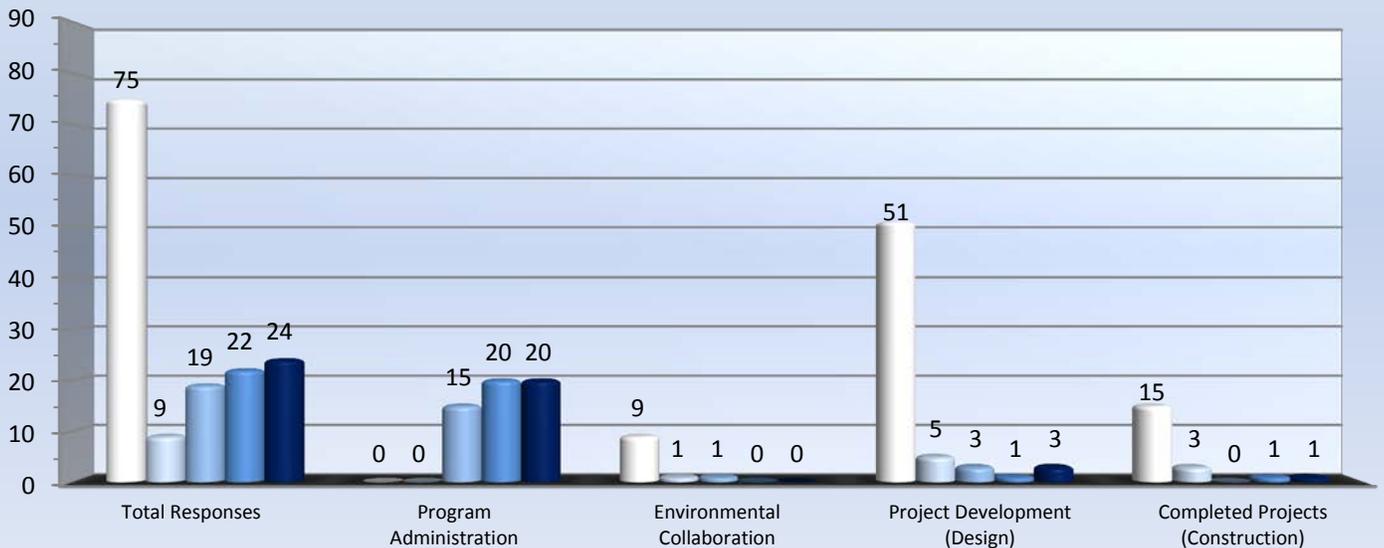
of Survey Responses 2015

2011 2012 2013 2014 2015



Survey Respondents by Partner Agency in 2015

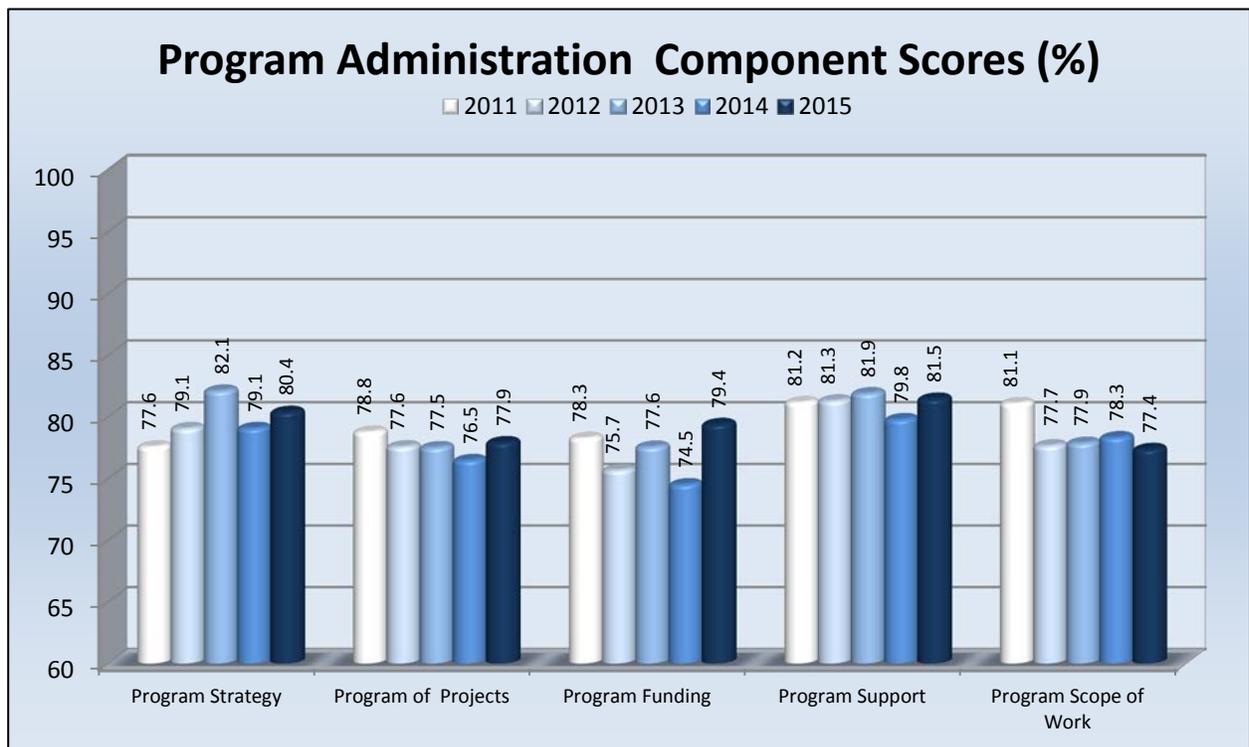
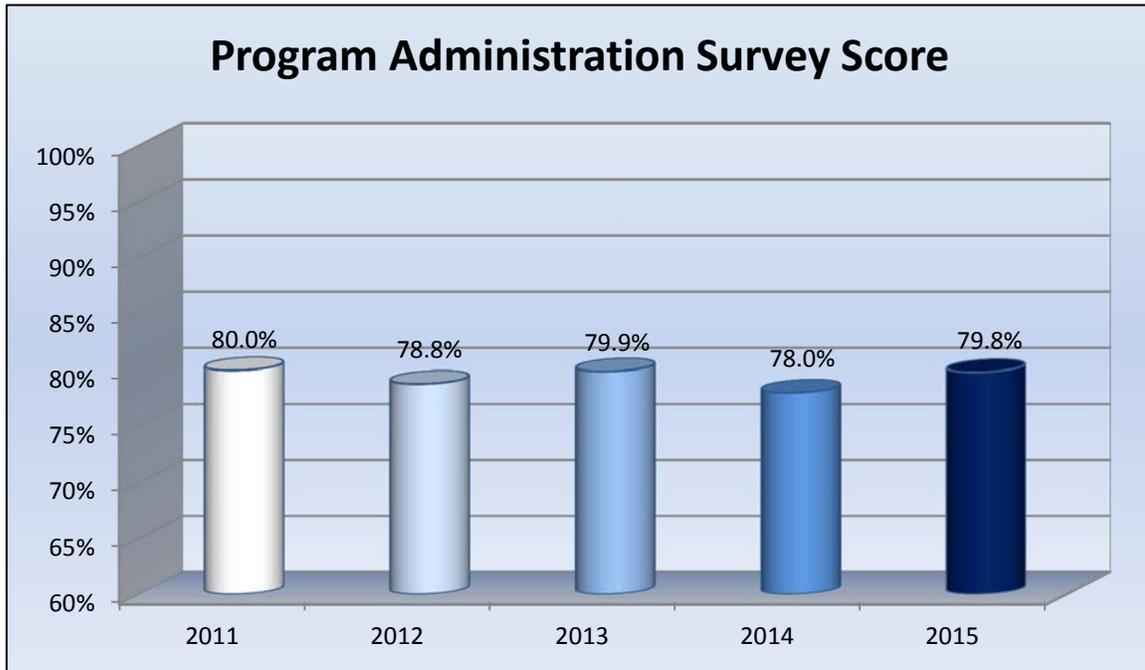
National Park Service U.S. Fish and Wildlife Service U.S. Forest Service
State Dept. of Transportation Other Agencies



Program Administration Survey

The purpose of the Program Administration Survey is to determine whether the program needs of Federal Lands Highway (FLH) partner agencies are being met by FLH's administrative practices.

EFLHD Overall Satisfaction Index Target $\geq 85\%$



Survey Results: Survey scores for the Program Administration Survey have risen by 1.81 percentage points over last year’s score. The current score of 79.8% falls below our self-imposed target level. The category areas of Program Strategy, Program of Projects, Program Funding and Program Support all recorded higher values from the prior year’s scores. The “Program Scope of Work” category which covers the reliability of initial cost estimates and the Partner Agency involvement in defining project scopes of work recorded a slight decline over last year. An analysis of the survey’s results by category yielded the following:

Category	2011	2012	2013	2014	2015	Change
Program Strategy	77.58	79.07	82.11	79.08	80.39	1.31
Program of Projects	78.77	77.59	77.52	76.48	77.93	1.45
Program Funding	78.27	75.68	77.57	74.52	79.41	4.89
Program Scope of Work	81.09	77.66	77.88	78.33	77.38	-0.95
Program Support	81.17	81.32	81.90	79.80	81.46	1.66
Overall Score	79.95	78.83	79.90	78.02	79.83	1.81

Questions resulting in the lowest percentages for this survey period were:

- Scope of Work: The reliability of initial cost estimates. 72.89%
- Program of Projects: The process used to develop the program of projects. 76.67%
- Program of Projects: Timeliness of information regarding changes to the program of projects. 76.67%

Question with the highest percentages for the current survey period were:

- Program Support: The communication of technical program information. 81.20%
- Program Support: The consideration given to your agency's needs and concerns. 81.22%
- Program Support: The responsiveness to questions from you. 84.08%
(also high in FY14)

Based upon the scores, we are still below our target goal for this survey. Our response rate for this year fell sharply to only 29% and is an unpleasant reversal over last year’s value of 51%. Our solicitation rate continued to be high with over 189 requests for feedback but disappointingly, only 55 of those inquiries were answered and provided feedback for analysis. Efforts have been undertaken to increase our response rate in all survey areas and the increased communications are providing mixed results. Division management analysis personnel will continue to undertake efforts to improve upon response rates for the 2016 survey cycle. This survey is scheduled to be reconfigured in calendar year 2016. Program changes and new Partner Agencies have provided an opportunity for alignment of survey questions to current work processes/procedures, and the updating of a survey which has been unchanged for many years. Written comments associated with this survey indicated:

- Early coordination and guidance is always appreciated.
- Annual partnership meeting should be continued to facilitate excellent coordination of both short and long terms goals and objectives and multi-year program development.
- In regards to the Federal Lands Access Program (FLAP) program, some of the projects we sign a sponsor letter for provide very minor benefits to our mission, while others are critical. We prioritize projects, but that information is used only as a tiebreaker.

- FLH authorization of funding involves a different process than the Federal-aid Division.
- I have found the FHWA-EFL staff to be very competent, professional, and responsive.

Action to Improve: We have initiated the following actions to improve and maintain partner satisfaction this year:

- We will expand our partnering efforts to include annual meetings with all of our core partners.
- We will review the FLAP selection criteria to determine if there are better ways to incorporate FLMA priorities. In addition, EFL will reach out to FLMA's to increase awareness of the selection process so that they can make more informed decisions on which projects to endorse.
- We will conduct a targeted Call for Projects in those states that do not have a four-year program of projects for the FLAP. We are also going to review all of the existing programs to determine if there are opportunities to advance projects through the loan-borrow process.

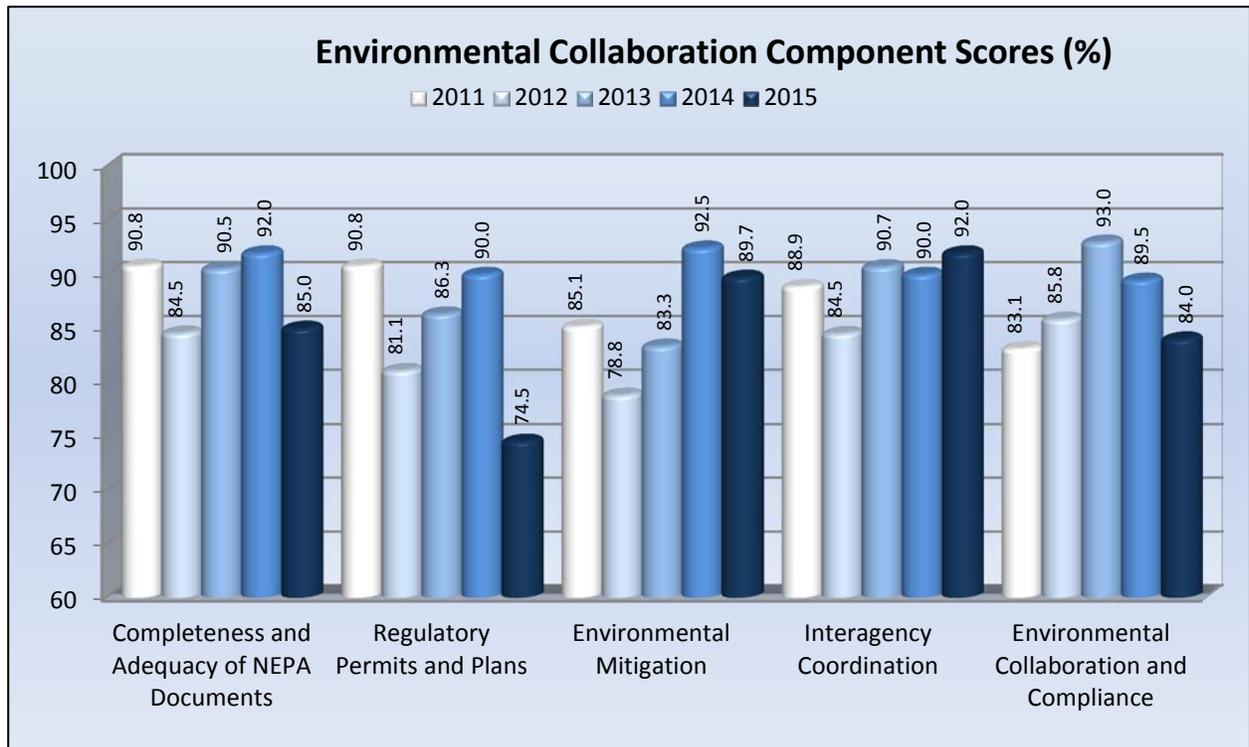
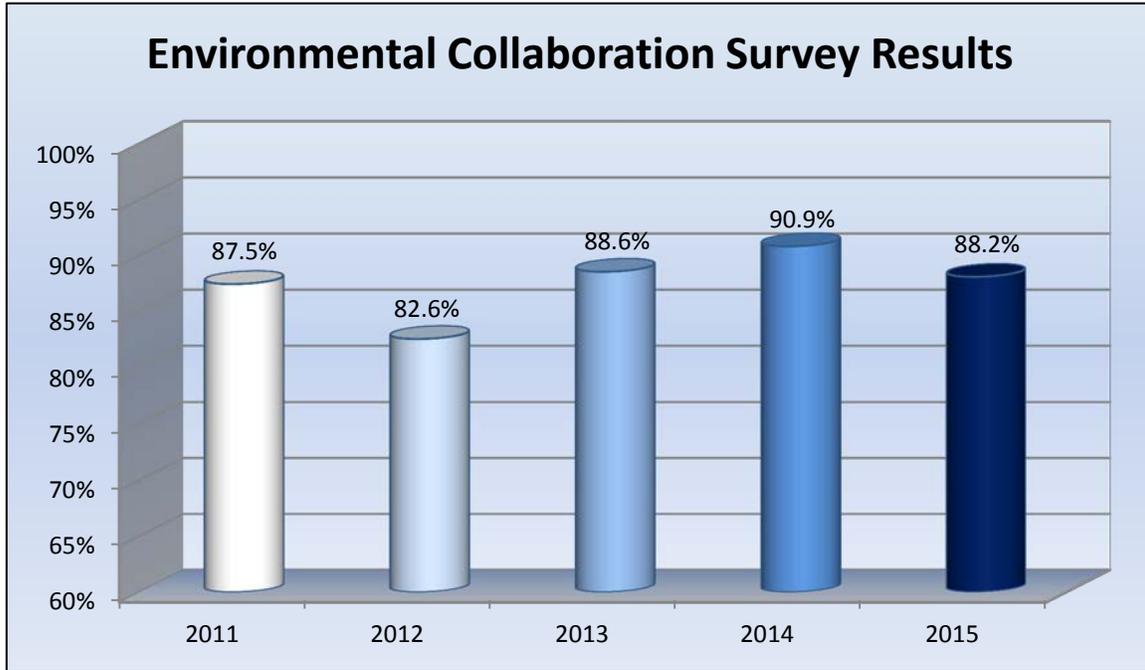
Actions Taken: We implemented the following actions for program administration improvement last year:

- We initiated a new milestone tracking system for ERFO events. This system has allowed us to monitor upcoming deadlines and proactively work with Partners to document submissions that will be beyond the timeframes outlined in the ERFO manual.
- We have held several outreach meetings with Partners to discuss how the Stewardship and Oversight process has been implemented over the past few years and to share details of the new Guidance that was issued.
- We initiated a four-year call-for-projects for the FLAP. We are working through the states to implement this across the board.

Environmental Collaboration Survey

The purpose of the Environmental Collaboration Survey is to evaluate the degree to which our work supports and is consistent with partner and resource agencies' environmental practices.

EFLHD Overall Satisfaction Index Target $\geq 85\%$



Survey Results: The 2015 survey resulted in a -2.75 percentage point decline from 2014 bringing the current score to a level of 88.2%. This value while lower, continues the trend of strong results for the Environmental Branch. Increased scores since 2012 have kept the Environmental Collaboration Survey above target for three years running. The survey category “Regulatory Permits and Plans” experienced a significant drop this year of 15.45%, with “Completeness and Adequacy of NEPA Documents” also dropping by 7 percent. The environmental team’s personnel have increased efforts to address survey areas with weakened outcomes over the past few survey cycles. This increased work has “Interagency Coordination” as this year’s only survey category recording an elevated value over 2014. An analysis of the survey’s results by category area yielded the following:

Category	2011	2012	2013	2014	2015	Change
Completeness and Adequacy of NEPA Documents	90.77	84.55	90.53	92.00	85.00	-7.00
Regulatory Permits and Plans	90.77	81.05	86.32	90.00	74.55	-15.45
Environmental Mitigation	85.13	78.82	83.33	92.45	89.74	-2.71
Interagency Coordination	88.85	84.49	90.71	90.00	92.00	2.00
Environmental Collaboration and Compliance	83.08	85.83	93.00	89.47	84.00	-5.47
Overall Score	87.54	82.61	88.63	90.87	88.15	-2.75

Questions resulting in the lowest percentages for this survey period were:

- Interagency Coordination: Completeness and Timeliness of Regulatory/Permits and Plans. 74.55%
- Overall: Please rate your satisfaction with the collaboration with your agency to complete the environmental compliances. 84.00%
- Environmental Mitigation: Monitoring / plans for mitigation commitments. 84.44%

Question with the highest percentages for the current survey period were:

- Interagency Coordination: Quality of response to requests from your agency. 92.72%
- Environmental Mitigation: Protection of existing surface waters. (including wetlands) 94.00%
- Interagency Coordination: Effectiveness of coordination and consultation with your agency (such as Section 106 of Historic Preservation Act and Section 7 of the Endangered Species Act). 95.56%

Our response rate for this year was 50% and is an improvement over last year’s value of 43%. The number of responses fell slightly below last year’s value, but our increased efforts at solicitation feedback have helped to bring up the overall rate. Division management analysis personnel are undertaking efforts to improve upon our response rates for the 2016 survey cycle. Written comments associated with this survey indicated:

- FLHA staff did an excellent job keeping the contractor that was selected to complete the NEPA EA on track for time frames and completeness of the document.
- EFL Environment took the lead on application of the necessary permits. Special credit goes to Lisa Landers for working closely with TDEC to ensure we met their requirements.

- This process took way too much time to complete. Better cooperation between the permit agencies and the designers/ project managers needs to be established.
- GRSM and I are very satisfied with the efforts taken to include the appropriate mitigations in the contract documents but we are disappointed with the contractor's effort to ensure the mitigations are maintained.
- I have no suggestions for improvement for EFL Environment. I think Kevin and Lisa do a great job and we have 100% confidence that they do what is needed and when it is needed.

Action to Improve: We will initiate the following actions to maintain higher partner satisfaction this year:

- Continue to implement Implementing Quality Environmental Documentation (IQED) effort that began under EDC by providing training to the Environment Team and Program managers.
- Implement the actions identified by the Storm Water Management "SWM" team to facilitate a better understanding of the permit process by the design team and project managers. Pre-Scoping activities associated with SWM will include the following:
 - ❖ Identify permit submittal jurisdiction
 - ❖ Identify and review previous projects completed
 - ❖ Identify possible permits required and requirements/design manuals for each (Fed/State/Local)
 - ❖ Locate site via Google Earth
 - ❖ Obtain LIDAR from Survey (if available)
 - ❖ Develop Project Description
 - ❖ Begin looking at DSR; filling out what you can before Scoping Meeting
 - ❖ Check FEMA/USGS/Soil Maps
 - ❖ Review past condition surveys, RIP data, HPM data
- Provide stormwater and erosion & sediment control training to the Design team to improve our ability to incorporate permit requirements and identify mitigation opportunities in the development of our plan sets.
- Identify opportunities to aid our contractor's ability to implement and maintain mitigation measures identified in our environmental compliance documents. The intent of this effort is to continue to identify and implement better ways to convey our commitments to the contractor. This could include incorporating additional notes into the plan sheets and participation in the pre-construction meetings on complex projects.
- Continue to identify opportunities to use existing programmatic agreements to facilitate the delivery of our program.

Actions Taken: We implemented the following actions last year:

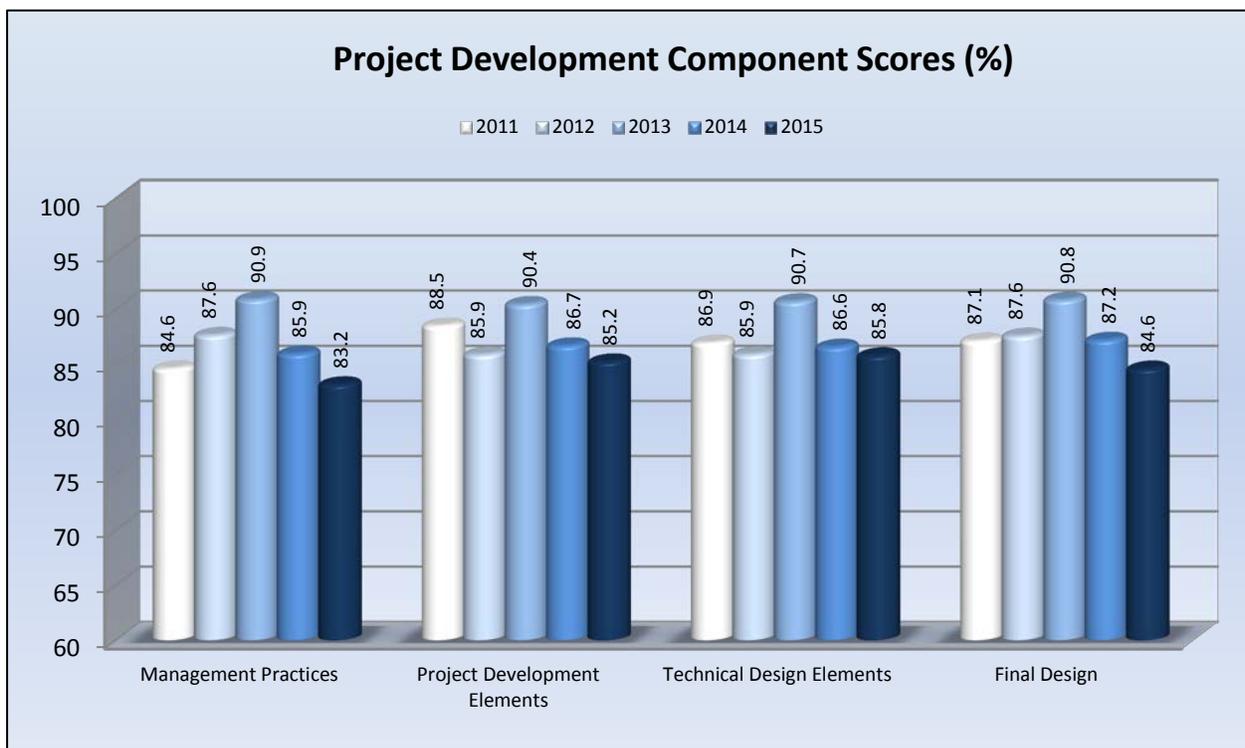
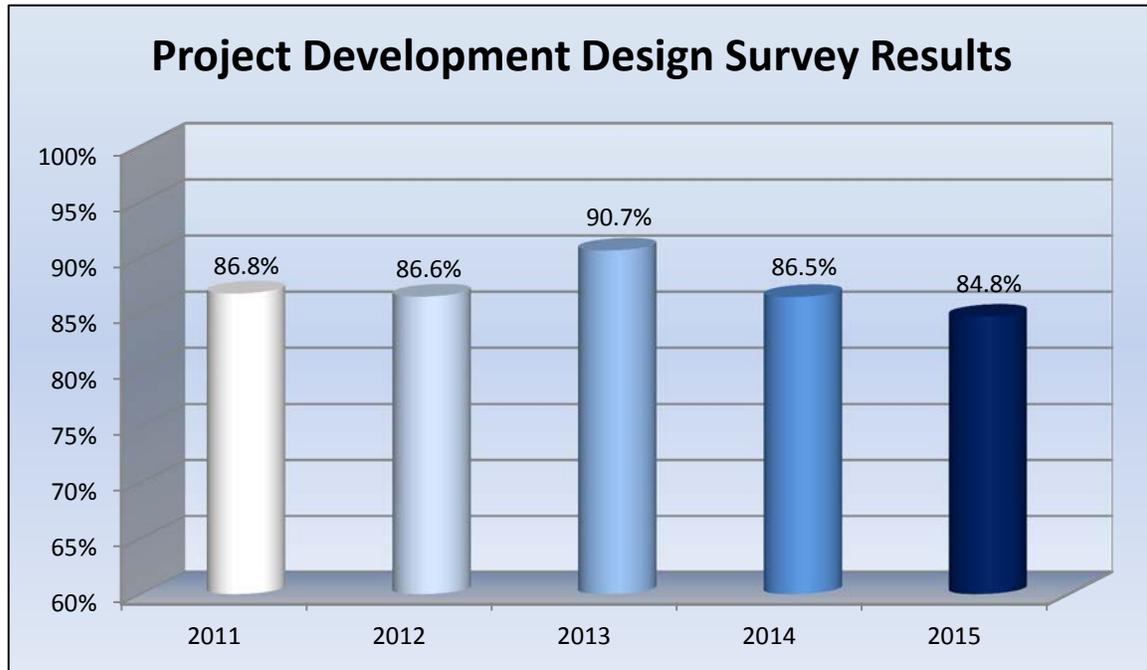
- Applied the IQED principles to a project in the Virgin Islands. The EA for Improvements on Raphune Hill Road (Route 38) and Route 381 was kept brief while ensuring legal sufficiency. The EA (without appendices) is only 32 pages long. We were also able to incorporate design visualization to tell the story.
- Incorporated amended estimates for NEPA and permit activities in the initial project schedules. These estimates accurately reflect the particular time expectations associated with each partner and permitting agency.
- Incorporated the identification of roles and responsibilities of our partner agencies when they are delivering the NEPA during the pre-scoping trip meetings to facilitate more effective scoping trips.

- Included assessments of constructability for each project. This includes discussions with Construction and Design to make sure the final design reflects site conditions and limit the possibility of late changes to the plan set that could impact NEPA compliance or permits.
- Formed a “SWM” team to handle projects requiring stormwater management plans and permitting.

Project Development (Design) Survey

The purpose of the Project Development Survey is to assess the quality of all project design elements and FLH management practices that lead to final design.

EFLHD Overall Satisfaction Index Target $\geq 85\%$



Survey Results: Survey scores for the Project Development Survey declined in all category areas this year, with categories split at two above and two below target. This drop in score brings the current survey value to 84.76%. This value comes in slightly under target and is the first year below target since 2009. Survey categories experienced an adjustment of approximately 1.8 percentage points across all areas with “Management Practices” and “Final Design” leading the down turn while “Project Development Elements” and “Final Design” are showing a lesser impact.

This survey has undergone a rewrite effort in calendar year 2015 and the new version will be utilized for solicitations in 2016. To better capture respondent concerns relating to the project delivery process, the reconfigured survey has six content areas. Those areas consist of questions covering “FLH’s Project Management Practices”, “Road way and Safety Design Elements”, “Hydraulic and Environmental Design Elements”, “Structural Design Elements”, “Final Design” and “Advertisement and Award of Contract”.

An analysis of the survey’s results by the category area yielded the following results.

Category	2011	2012	2013	2014	2015	Change
Management Practices	84.58	87.63	90.87	85.94	83.16	-2.78
Project Development Elements	88.47	85.86	90.43	86.68	85.23	-1.45
Technical Design Elements	86.92	85.89	90.68	86.57	85.78	-0.79
Final Design	87.11	87.56	90.82	87.19	84.58	-2.61
Overall Score	86.83	86.56	90.67	86.52	84.76	-1.76

Questions resulting in the lowest percentages for this survey period were:

- Management Practices: FLH's management of design costs. 81.13%
- Management Practices: Outside permits, reviews, and approvals obtained in a timely manner 81.72%
- Management Practices: Consideration of alternative solutions to problems before recommendations were presented. 82.33%

Question with the highest percentages for the current survey period were:

- Project Development Elements: Environmental sensitivity and mitigations. 87.02%
- Project Development Elements: Scoping document or project agreement. 87.86%
- Technical Design Elements: Erosion control. 88.52%

Our satisfaction score continues to hold close to target and we have met that target in “Project Development Elements” and “Technical Design Elements” but fell slightly below on “Final Design” and 1.84 points below with “Management Practices”.

The sample comments below represent a key positive theme of EFLHD’s responsiveness as reflected in this year’s ratings:

- EFL does an overall great job in design development and construction management and offers valued input into the design.
- EFL is very responsive to ERFO events and is on-site shortly after funding for an event is allocated.
- EFL is an outstanding partner and NPS could not perform our mission effectively without your consistent and competent assistance.

- EFL involvement is appreciated with the EA, NEPA compliance process and in the VA/CBA study for projects.

The following survey comments convey specific items within projects where we did not meet our partner's expectations:

- Limits of disturbance need to be clearly indicated on the plans.
- Partners continue to express concern with over-design and preliminary engineering costs.
- Three projects highlighted communication issues over the sensitivity of the guardrail design and placement.
- Communication issues among design, construction and partner staff may have led to scope changes, utility coordination or other design issues
- Many comments received were related to dissatisfaction with the contractor, the bidding process, and EFL's communication with the various FLMA units during construction.

The Project Development Survey continues as a sounding board for all aspects of a project and not just design development. These comments, while not design specific, reflect negatively within the Project Development Survey scores, especially "Management Practices." These comments have been shared with other appropriate staff at EFLHD so we can take the necessary action as a division.

Actions to Improve: We will implement the following in FY 2016:

- Project Management - With the reorganization of Highway Design and the creation of a Project Management Branch (See Actions Taken), there is a renewed focus and realignment of projects among eight Project Managers. This redistribution of workload is intended to increase focus and communication with partners through completion of construction. EFL shall continue to strive to communicate with Region and unit personnel on the status and needs of their projects regularly, and elevate controversial issues as necessary.
- Planning – EFL is working with our partners to evaluate pavement and bridge condition data to effectively develop a program of projects for replacement, rehabilitation or preventative maintenance. Estimating for future bridge improvement projects is being reevaluated based on a design (rather than maintenance) approach. EFL will complete research to evaluate the appropriate and most practical pavement management approach to projects prior to project scoping. Early discussions with partners to evaluate the pavement management approach to projects should help improve planning estimates.
- Guardrail Design – While actions related to the comments appear to be communication issues, proper design of guardrail is essential. New training for guardrail design, installation, and safety performance of roadside hardware is scheduled to be conducted in FY 2016.
- Bidding – EFL continues to evaluate the availability and acceptability of qualified contractors in accordance with the Federal Acquisition Regulations (FAR) and DOT requirements. The requirement to use various small business set-asides is a reality for the location, size and complexity of our projects. With these changing contracting mandates, EFL has experienced a number of additional "failed" advertisements based on estimated costs or contractor capabilities. EFL will further evaluate methods to conduct market research to identify available and qualified contractors, ensure the most appropriate method of solicitation, and to obtain the best value. EFL will continue to post our solicitations to

FedBizOpps as well as State and Contractor Association websites whenever practical to ensure the most available bidders are notified of upcoming solicitations.

- Scoping – The scoping process is a key focus for improvement for EFL and our Partners. FLMA Regions and Units often disagree with each other over the planned scope and funding needs which affect a quick and early decision on proceeding with design of a project. The project scope and budget may also be impacted by the level of stormwater management design required. EFL will introduce changes into the scoping process to address stormwater management needs from the very beginning and identify potential best management practice sites during the scoping visit when required. In addition, EFL will address scope uncertainty related to rehabilitation or preventative maintenance pavement and bridge projects.
- PE Cost - Scope changes, stormwater management requirements, and extended NEPA development have further impacted our engineering cost to deliver, especially small projects, and complicating our ability to use abbreviated plans by requiring increasing levels of plan detail to obtain permits and approvals. While EFL has adopted a performance-based practical design approach for every project, it remains a challenge to simplify every aspect of every project's design. Where the risk of the project has been determined appropriate, simplified processes, reduced staffing, and/or abbreviated plans will be implemented to deliver projects whenever practical to minimize or eliminate cost.
- The Project Development Survey will be expanded and edited to clarify intent, improve design content, and address specific topics such as project management and contract acquisition. This revised survey will be implemented in calendar year 2016.

Actions Taken: We implemented the following actions in FY 2015:

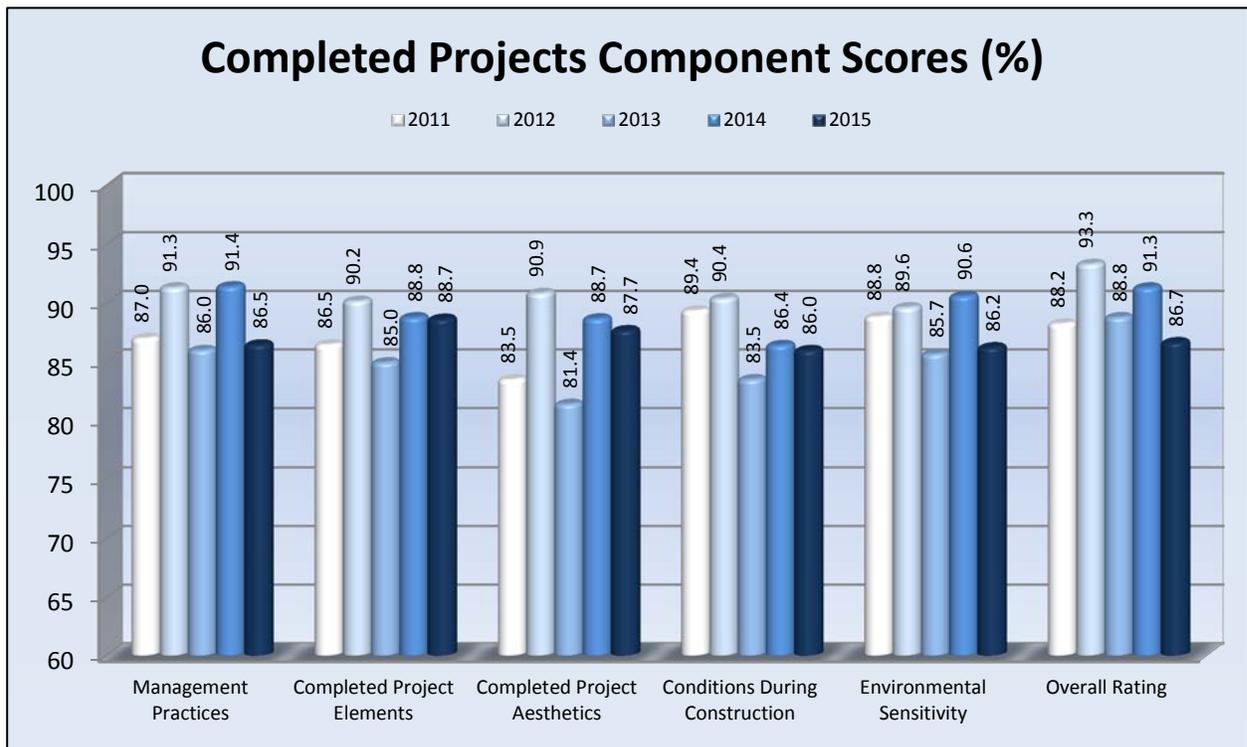
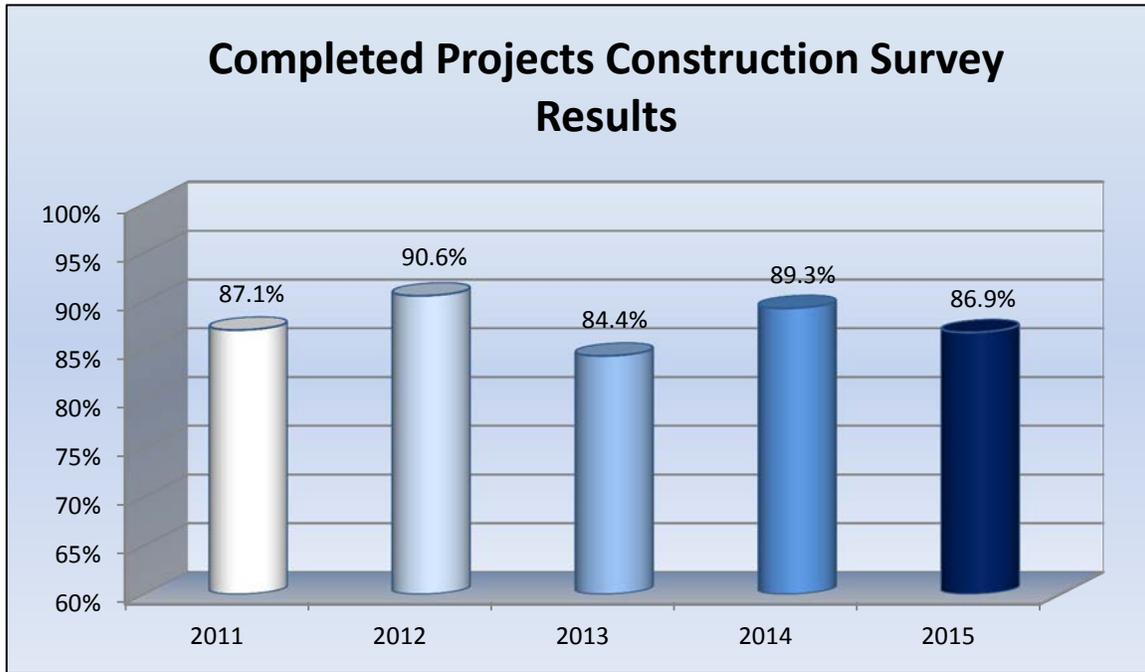
- Reorganized and split the Highway Design Branch and Special Projects Team into two separate branches: (1) Project Management Branch and (2) Highway Design Branch. In past years most Project Managers reported directly to the Highway Design Branch Chief, and Project Managers within the Special Projects Team reported only to the Special Projects Team Leader. Now all Project Managers report to the Project Management Branch Chief (converted from Special Projects Team Lead). This business model will better represent our Project Managers as the face of FLH, more evenly distribute workload, and improve project communication both internally and externally.
- Prepared and implemented guidelines to help planners and designers plan, program, define and incorporate necessary, but appropriate, safety improvements in context with the type of project. These guidelines should provide a more consistent application of safety features within projects of similar context. On average, safety improvements incorporated into EFL projects reduce crashes by an average of 11.5% annually, and in FY 2015 more specifically 13.8%.
- Promoted and implemented a Performance-based Practical Design philosophy through training to help reduce cost, identify instances of over-design, and improve partner satisfaction. While not inherent in all projects, in 2015 at least two instances of overdesign were detected that have reduced both engineering and construction cost. It will take time for the philosophy to fully take hold and for more improvements realized as we move forward.
- Researched, evaluated, communicated and implemented new underwater sealants for use on various projects as a result of previous partner concerns. Through the value analysis process, we proposed and shared design alternatives for various projects.

- Conducted Work-Zone Traffic Control training for design and construction staff to ensure that traffic control is appropriate for the project type and context (location, traffic volume, speed, etc.).

Completed Projects (Construction) Survey

The purpose of the Completed Project Survey is to assess the quality of all completed construction projects and overall FLH management practices.

EFLHD Overall Satisfaction Index Target $\geq 85\%$



Survey Results: Overall the Completed Projects Survey score came in above target at 86.9%. A concerted effort by the construction office personnel to contact partner agencies to improve survey feedback response rate was continued for 2015. The results of this work continue improving rates from a low of 39% in 2012, to today's value of 45%. For this year the "Environmental Sensitivity" and "Management Practices" were impacted the most while every category decreased some over the 2014 values. An analysis of the survey's results by the category area yielded the following results.

Category	2011	2012	2013	2014	2015	Change
Management Practices	87.00	91.33	86.00	91.43	86.48	-4.95
Completed Project Elements	86.46	90.19	84.95	88.79	88.67	-0.12
Completed Project Aesthetics	83.48	90.86	81.41	88.69	87.69	-1.00
Conditions During Construction	89.35	90.42	83.51	86.42	86.00	-0.42
Environmental Sensitivity	88.82	89.64	85.67	90.60	86.24	-4.36
Overall Rating	88.24	93.33	88.80	91.33	86.67	-4.66
Overall Score	87.10	90.62	84.44	89.33	86.85	-2.48

Questions resulting in the lowest percentages for this survey period were:

- FLH's Management Practices: FLH and construction contractors working together to resolve problems. 82.35%
- Environmental Sensitivity: Preservation of existing vegetation. 82.67%
- Conditions During Construction: Your perception of overall public reaction during construction. 83.53%

Question with the highest percentages for the current survey period were:

- Completed Project Elements: Major structures (bridges, walls, etc.) 92.00%
- Completed Project Aesthetics: Alignment of guardrail, walls, and roadside appurtenances. 92.31%
- Completed Project Aesthetics: Major structures (bridges, walls, etc.) 92.73%

The results received thru our 2015 solicitations were accompanied by Partner comments and the key themes expressed by those comments indicated:

- EFL Project Engineer did a wonderful job of keeping Park informed of various developments throughout the project. He was very responsive to our concerns. Even though there were issues with the construction schedule he kept us informed and worked everything out. There were some decisions about time extensions that were made at a higher level and in which the Park was not included.
- Engineers were very responsive in designing and constructing the GRS structure with a stepped layout. This made installing the topsoil on the slope and seeding the structure much easier and more stable. Restoration of the slope was very successful with this design feature.
- NPS and Federal Highways need to get together to develop better contract controls to be able to prevent contractors from damaging the natural resources.
- During construction, there were several documented safety incidents that were caused by the contractor. These incidents were not the fault of EFL and we appreciate EFL's approach in requiring the contractor to remedy the problems.

Actions to Improve: We will continue to strive for higher partner satisfaction and will implement the following actions this year:

- We will provide training for construction zone safety inspection and W-Beam Guardrail. These trainings are aimed to enhance project administrative skills of the project staff.
- We will participate in an e-construction piloting program by testing various tablets in the field. This program is to select a preferred platform that will benefit the project staff to perform project administration duties.
- We will provide training related to interpreting the FAR regulations concerning the contract modification and environment issues. This training will benefit the project staff to administer the construction contract.

Actions Taken: We implemented the following actions last year:

- Provided training for construction inspection and quality assurance during the Construction Winter Training. These trainings were aimed at enhancing project administrative skills of the project staff.
- Held a partnering session with the representatives of NPS and construction field staff to educate our staff in the building and maintaining of effective working relationships with the NPS. It would serve to improve communication at the project level and help in project administration.
- Established an electronic project records structure (OneNote) in concert with the other divisions. Construction office is continuously providing a web-based training to field staff in its use.
- Provided trainings to project staff on the need for more attention toward the preservation of environmental safeguards at the annual training event, through NHI training courses on erosion and sediment control, through periodic training given for SWPPPs, and through the project post mortem review process.
- In September 2015, the General Services Administration (GSA) placed our system provider, and creator of EEBACS (Engineer's Estimate, Bidding, Award, and Construction System), under suspension. Though no longer on the GSA exclusion list, the FLH Leadership has decided not to continue our contractual relationship with the firm. In the interim, FLH has developed processes to continue the delivery and administration of projects and provide the functions of EEBACS. In addition, FLH is exploring systems that will replace the functions of our former system and be commercially available.

Accomplishments for Fiscal Year 2015

Project Delivery

Humpback Bridge Replacement and Joyce Street Safety Improvements

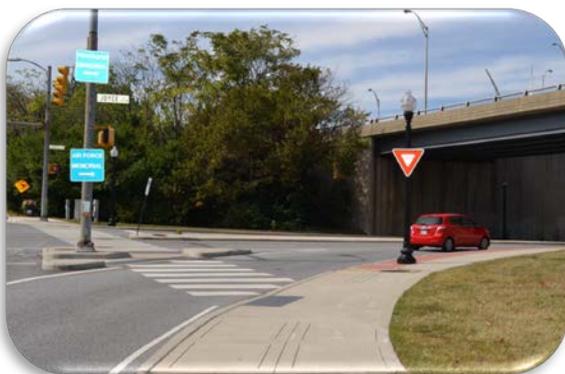
George Washington Memorial Bridge, Virginia

Recipients of the 2015 Environmental Excellence Awards, Nonmotorized and Multimodal Transportation: Humpback Bridge Replacement and Joyce Street Improvements

Humpback Bridge and Joyce Street projects in the heavily traveled I-395 corridor of Northern Virginia advance the state of the practice in pedestrian and bicycle accommodations. In collaboration with the Virginia Department of Transportation (VDOT), the NPS, and Arlington County, FLH enhanced access for pedestrians and cyclists to destinations within our Nation's capital, including the Pentagon, Arlington National Cemetery, and the Mount Vernon Trail. The George Washington Memorial Parkway Humpback Bridge replaced an historic bridge and filled missing links in the pedestrian and bicycle networks by incorporating two pedestrian/bicycle underpasses and adding a barrier-separated, 10-foot-wide, multi-use trail on the Bridge. The Joyce Street project widened sidewalks and trails and provided additional lighting to improve safety for nonmotorized transportation users as well as for accommodating a new street car line installation and access to nearby subway stations and bus stops. The success of the Humpback Bridge and Joyce Street projects demonstrates the value of incorporating bicycle and pedestrian accommodations in bridge and street reconstruction work.



Humpback Bridge carries the Mount Vernon Trail system over Boundary Channel along the Virginia side of the Potomac River



Joyce Street provides multimodal access to the Pentagon 9-11 Memorial, Arlington National Cemetery and the Air Force Memorial in Arlington, Virginia

Blue Ridge Parkway, Ice Rock and Alligator Back Alleghany County, North Carolina

Chosen as the first CM/GC contract for EFL, this project is within the oldest and most historic section of the Parkway. The Ice Rock and Alligator Back curves are high-accident locations because of the water and ice on the roadway emitting from the rock cut slopes. The project called for slide stabilization utilizing soil nails and Geosynthetic Reinforced Soils (GRS), reconstruction of settled and deteriorated stone masonry retaining walls, and the construction of new concrete core wall. The NPS requirement to maintain the appearance and character of the existing historic walls along the Blue Ridge Parkway was critical. The historic stone walls, contributing elements to the historical significance of the Parkway, are comprised of large native boulders and had to be salvaged for reuse in the replacement walls. One of the deliverables from the CM/GC firm was a constructability report to identify cost, schedule risk elements, and evaluate innovative approaches to deliver the project. The CM/GC participated in a Value Analysis workshop, and provided input into advantages/disadvantages of several alternatives. As a result, the government determined that the best and most cost-effective retaining wall reconstruction alternative would reuse existing historical stone in combination with GRS construction. The goal of maintaining the visual and historic character of the walls was met.



Views of the stone masonry walls



Though not as prevalent in other federal land units, stone paved waterways are common drainage features along the Parkway



Steinwehr Avenue Improvements — Road Diet Gettysburg, Pennsylvania

Steinwehr Avenue is an historic battle roadway through the Borough of Gettysburg, surrounded by visitor service-oriented businesses and the neighboring Gettysburg National Military Park Visitor Center. When the original Park Visitor Center was moved further away, businesses along Steinwehr Avenue suffered significant loss in revenue and tourist traffic. In alliance, the Borough, the Business Improvement District, the NPS, pedestrian groups and Pennsylvania DOT partnered to develop a revitalization plan to refresh the Steinwehr corridor. This project applied the principles of a “road diet” to complete the second and final phase of

Steinwehr from Baltimore Avenue to the Park Entrance near Long Lane. Several key improvements were recommended to retain and improve on-street parking, streetscape furniture and landscaping, pedestrian sidewalks, and separated bicycle lanes. The road diet, a safety-focused EDC initiative, is a low-cost strategy that reallocates a roadway cross-section to safely accommodate all users, increase mobility and access, reduce crashes and improve a community's quality of life.



View of bike lanes looking north toward Baltimore Avenue (after)



View of widened brick-paved sidewalks and landscaping looking north across from Park



Looking north toward Baltimore Avenue (before)



Looking south toward Park Entrance (on left) note drainage improvements

Devil's Courthouse Tunnel Rehabilitation Blue Ridge Parkway, North Carolina

Devil's Courthouse Tunnel was originally constructed in 1941. This project made repairs to the aging drainage system and concrete lining inside the tunnel requiring a full road closure, in the interest of visitor safety the tunnel was sealed and inaccessible to any traffic during this project. The Blue Ridge Parkway is recognized internationally as an example of



Devil's Courthouse Tunnel stone portal entrance and inside look at the new concrete lining



landscape design achievement and Parkway tunnels are a significant design feature along the historic route. Twenty- five of the twenty-six tunnels along the Parkway are in North Carolina, with all Parkway tunnels representing 36% of the entire NPS tunnel inventory. Tunnels along the Parkway were often constructed to reduce excessive scarring that open cuts would entail, enabling the Parkway to cross through ridges in the interest of maintaining the most desirable route location. The distinctive stone masonry portals on most Parkway tunnels were generally not part of the original construction, but added later in the 1950s and 1960s.

Motor Nature Trail Bridge Replacement Great Smoky Mountains National Park, Tennessee

The Roaring Fork Motor Nature Trail invites you to slow down and enjoy the forest, this project replaced the eight bridges along the route. The 5.5 mile long, one-way, loop road is a very popular route that allows for views of rushing mountain streams, old-growth forest, and a number of well preserved log cabins, grist mills, and other historic buildings from the comfort of a vehicle. The motor trail also leads to several popular hiking trails and foot paths.



Views of the replacement bridges along one of the most narrow roads in Great Smoky Mountains National Park



Province Lands Bicycle Trail Bridge Replacement Cape Cod National Seashore, Massachusetts

The Province Lands Bike Trails original underpasses were arch constructions with low vertical clearances. The low clearance presented a safety hazard for cyclists passing through the concrete portals. To eliminate the safety hazard, NPS requested assistance with replacement of the existing arches with larger structures providing more adequate clearance. The best solution to suit



the needs for the project was GRS-IBS construction. This method for replacement cost effectively eliminated the safety hazard, accelerated construction during the peak visitation season, and minimized ground disturbance to the wetland area. Overall, this method provided the best solution for the NPS.



View after construction

Mount Vernon Trail Bridge Potomac Heritage National Scenic Trail George Washington Memorial Parkway, Virginia

This project replaced a 278 foot long, 10 foot wide pedestrian/bicyclist timber bridge located on the Mount Vernon Trail, a part of the Potomac Heritage Trail, of the George Washington Memorial Parkway. The trail is an 18-mile long multi-use trail



Views of the completed trail bridge emphasize the care taken to minimize impact on the environment

located next to the George Washington Memorial Parkway. Helical piles

were placed at the exact location of the existing timber piles, so there would be minimal disturbance to the existing wetlands. For additional environmental protection construction access was limited to the footprint of the existing bridge and the contractor used timber matting over

separation geotextile to protect the existing ground and vegetation. The acquisition documents included pass/fail selection criteria for experience with helical piles and timber bridge construction, ensuring selection of a capable contractor. The Park was extremely satisfied with the contractor's ability and the finished project. Construction of the project took just three months to complete.



**I-95 South Ramp at Fort Belvoir North
Springfield, Virginia**

The Fort Belvoir North Defense Access Road Project provides new access to I-95 South via this High Occupancy Vehicle/High Occupancy Traffic (HOV/HOT) Ramp. The ramp is a one-lane reversible access road that initially will provide PM access from Fort Belvoir North to I-95 southbound HOV/HOT lanes and I-95 northbound general purpose lanes, but is configured to allow for AM access to Fort Belvoir North from the northbound HOV/HOT lanes in the future. The ramp tied in perpendicular to an existing flyover structure which required the use of a unique joint to allow for horizontal and vertical movement.



New ramp providing access to I-95 South HOV/HOT lanes and I-95 North general purpose lanes from the National Geospatial-Intelligence Agency Parking Lots, Fort Belvoir North, Springfield, Virginia

**Wallops Island Causeway Bridge, Access to Wallops Flight Facility
Chincoteague, Virginia**

Recognized by the Baltimore-Washington DC Chapter of the International Concrete Repair Institute (ICRI BWDC) 2015 Outstanding Repair Project Award — 3rd place

The Wallops Island Causeway Bridge rehabilitation was Federal Lands first large scale project using Fiber Reinforced Polymer (FRP). This method proved best to deal with section loss and the load demand that NASA requires to transport its space launch equipment to the Flight Facility. The bridge required a solution that would restore the girders back to their original load carrying capacity as well as protect the internal steel pre-stressing strands from further corrosion.



Causeway Bridge



Close-up of beams after repairs were completed and the finish coat was applied



Carbon Fiber Wrap being installed after repair of beam surface

J to H Spillway Bridge Replacement Seney National Wildlife Refuge, Michigan

This project consisted of the replacement of the J to H spillway bridge on Fishing Access Road within the Seney National Wildlife Refuge. The work included removal of the existing one lane, ten span timber bridge, abutments, and piers, followed with construction of a one lane, three span, prestressed concrete box girder bridge, and reconstruction of the aggregate roadway. The most important point being that this Accelerating Bridge Construction (ABC) with Prefabricated Bridge Elements & Systems (PBES) project was fully constructed during the winter months in Michigan!

before and after



Heli Pad Construction Swain & Graham Counties, North Carolina



A ribbon-cutting ceremony was held on Friday, October 30, 2015, in celebration of the completion of a new helipad near Tsali Recreation Area, a perfect example of the flexibility of the FLAP. This helipad will improve emergency response access and provides the Mountain Area Medical Airlift with a safe area to land and take-off when transporting accident victims, or patients in emergency situations to nearby medical facilities. With the completion of this helipad both Swain and Graham County's EMS can provide quick emergency response to areas like the Nantahala National Forest, Tsali Recreation Area, and Nantahala Gorge. Just five and a half hours after the ribbon cutting, the new landing site was put to use in response to a medical emergency.

Frenchman's Bay Road Widening and Reconstruction Project St. Thomas, US Virgin Islands

The Frenchman's Bay Road corridor is the first impression visitors arriving via cruise ship have of St. Thomas. This road links one of the world's top cruise destinations to one of the best shopping districts (Charlotte Amalie) in the US Virgin Islands. The Virgin Islands Department of Public Works recognized this and, in cooperation with EFL, initiated the planning, design and construction improvements of Frenchman's Bay Road. In addition to roadway reconstruction and widening, the project included utility upgrades, sidewalk construction, traffic signals, and landscaping.



Views of reconstructed and widened roadway that now allows for safer pedestrian passage from cruise ship docks



Emergency Relief for Federally Owned Roads (ERFO)

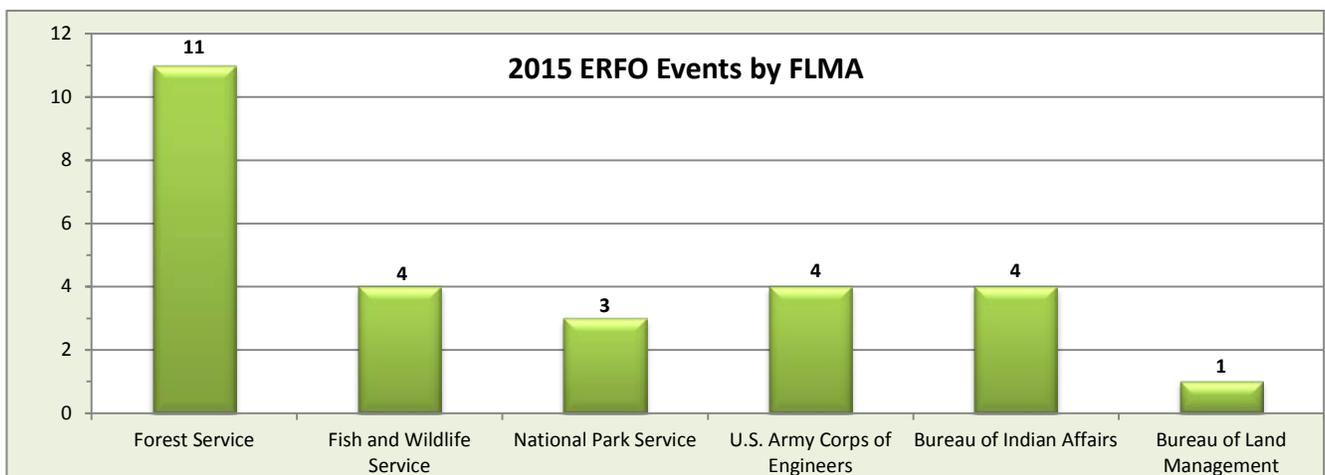
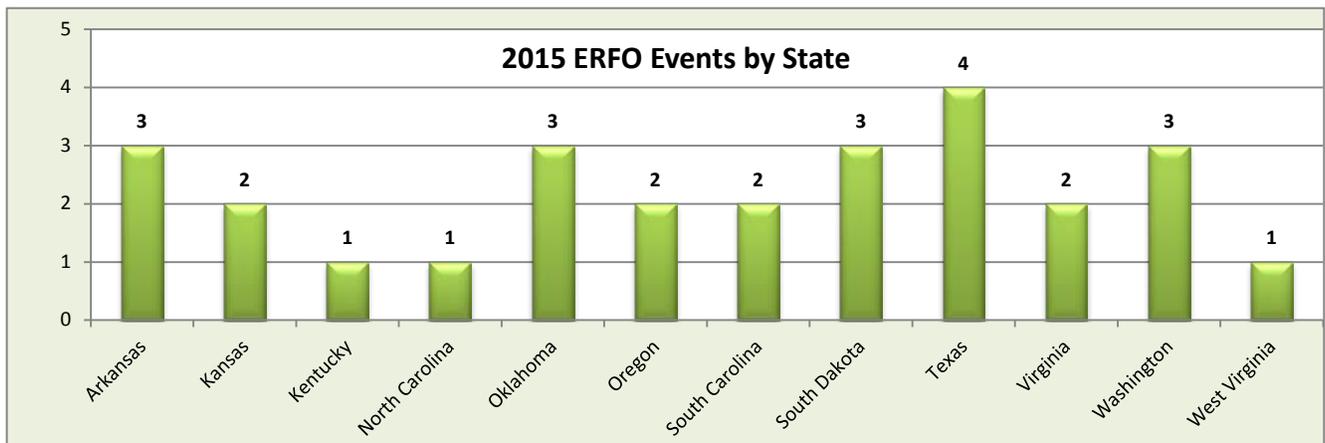
In May of 2015, heavy rains inundated several facilities in five states (Arkansas, Kansas, Montana, Oklahoma, Texas) resulting in an estimated \$30 million in damage. The event reached across 2 Federal Lands Highway Divisions and affected 4 FLMAs: FS; NPS; USACE; FWS. All Federal Lands ERFO personnel responded to this disaster and arranged an emergency training session in Dallas, Texas that involved the entire USACE South Western District as well as personnel from the NPS. Dozens of damage sites were identified and documented. In addition to this consolidated rain event there were also several other emergency situations within our Federal lands this year



View of washout at Shawnee Creek, State Highway 91, Texas



View of flood damage at Hugo Lake, Oklahoma



**Jamaica Bay Wildlife Refuge
North Channel East and West Parking Areas
Gateway National Recreation Area, New York**

The two parking areas were damaged during Hurricane Sandy and restored in July of 2015. The work involved removing damaged portions of the existing parking areas to reduce the overall dimensions of the lots, and stabilizing the embankment to prevent further undermining of the parking areas. The project location is a favorite nesting spot for horseshoe crabs so straw bales were used to prevent them from entering the site during construction. The slope protection was constructed of a layer of riprap and a layer of landscape stone which were then choked with sand.

Examples of damaged parking areas



Completed Flood Repairs, Galinas Canyon Forest Road, Santa Fe National Forest, New Mexico



Stabilization



Drainage Repairs (Before & After), Figueroa Road, Los Padres National Forest, California



View of completed project

Fire Island Lighthouse Dock Fire Island, New York

The Fire Island Lighthouse ferry/water taxi dock was completely destroyed during Hurricane Sandy eliminating a key entry point into the Seashore. Somewhat different than traditional FLH projects, the site was almost entirely in-water construction with demolition and pile driving work requiring the use of construction barges.



Lighthouse dock after Hurricane Sandy



Pile driving from construction barge



Reconstructing water taxi dock



Views of completed dock



Transportation Asset Management

Pavement Preservation Program National Park Service Southeast Region (NPS SER)

Pavement preservation involves applying a series of low-cost treatments every few years to a road segment, that is at a minimum in good condition, to halt further deterioration. If the pavement surface and substrate have not significantly deteriorated, relatively inexpensive treatments can keep water out of the pavement, prevent oxidation of the asphalt, and maintain good skid resistance. In addition, the road surface can also be kept looking attractive. All of which are important factors for national park roads. A more efficient and cost-effective approach is needed to maintain park roads and meet expectations for safety, ride quality, and optimum traffic flow, while protecting investments made in the park transportation networks. The NPS SER program covers all SER Parks Paved Roads (not including roads within the Blue Ridge Parkway,

Great Smoky Mountains National Park, or Natchez Trace Parkway) and establishes a strategic plan to place a seal coat or other asphalt surface treatments on paved roads and parking areas in the SER on a seven to ten-year cycle. In order to achieve maximum efficiency, the SER Parks are split



View of a stretch of roadway condition showing visible cracks, a condition suitable for pavement preservation treatment as a low cost alternative to extend the life of the pavement at Canaveral National Seashore, Florida

into seven sub-districts, and each sub-district's parks will be bundled into a single contract each year. The single contract will provide the project size necessary to maximize the cost-effectiveness of the pavement preservation treatments (i.e., to gain economy of scale). Only one district will be treated per year, so the Highway Pavement Management Application (HPMA) was used to develop the order in which the sub-districts would be treated to maximize the life-cycle benefits to the region overall. The first FY 16 project was recently advertised.

Road Safety Audit (RSA) Program USDA Forest Service (FS) Transportation Safety Program

In support of the USDA Forest Service Transportation Safety Program, FLH is conducting a series of Road Safety Audits (RSAs) in all nine regions of the FS. Eastern, serving as program manager and project coordinator will select one high priority FS unit in each region based on crash data, traffic volumes, roadway alignment and anecdotal information. Work is progressing to evaluate existing infrastructure and operational conditions of selected high priority need locations. RSAs are presently being conducted and a comprehensive report will be developed with safety improvement suggestions. This effort is a significant accomplishment to meet MAP-21 national goals and performance management measures for safety.



Road Safety Audits in process

Road Inventory Program Data Collection Methods



The FLH NPS Paved Road Inventory Program Team gathers data both manually and with the use of the Data Collection Vehicle at Fort Vancouver National Historic Site before moving on to Mount Ranier National Park. The team also assembled for an annual training meeting for procedural review, and discussion on NPS data collection needs for the remainder of Cycle 6 (current NPS cycle starting in 2014).



FLH Road Inventory Program Coordinator shares information on the use of an iPad software program for road data collection to representatives from the BLM at a trip to Nestucca River, Oregon. This software is under development for use in FWS, BLM and BOR road data collection and is intended to streamline the field process and provide immediate updates to each partner's maintenance management system.



Two key components needed to support a performance-based FLTP include defining one's official Federal Lands Transportation inventory followed by collecting condition data on roads and bridges to establish baselines. Most FLTP partners possess condition data. A notable project led by FLH with partners, was an assessment of partners' existing methodologies for collecting and

reporting road condition data. One objective of the assessment was to ascertain if a single method could be identified and cross-walked with partners current practices to promote consistency in performance reporting. The Road Condition Crosswalk Assessment took place this year, with ground verification exercises in Nevada and New Mexico. The field assessments were an important step in developing standard reporting metrics for paved, native and gravel roads. At least one



Field assessment involving representatives from various FLMAs — New Mexico

field assessment was attended by representatives from the NPS, FWS, BLM, FS, USACE, and the BIA. Following the conclusion of the effort, it was determined that a crosswalk approach from multiple methodologies to one approach was too difficult and resource intensive. The assessment did unveil opportunities to reduce the current list of methodologies to two, namely the use of the Pavement Surface Evaluation and Rating (PASER) tool for asphalt, native and gravel roads and Pavement Condition Rating (PCR). Moving multiple partners to a common set of road condition data collection methodologies will take time. This effort was instrumental in providing the long-term vision to support a performance-based program.



Collecting condition data



Discussing data collection methods and findings

FLH Bridge Inspection Program

The Bridge Inspection Program is responsible for the safety inspection and structural rating of approximately 2,700 structures owned by various FLMA in accordance with the National Bridge Inspection Standards (NBIS). The scope of the program includes risk-based condition assessments for safety and structural



Under Bridge Inspection Vehicle (UBIV), Foothills Parkway, Tennessee



Bridge Inspection staff drilling concrete test core samples from bridge abutment for in-depth investigation at Pentagon Reservation, Arlington, Virginia

adequacy, evaluations for serviceability and functional obsolescence, and calculation of safe load capacities. The program goals are accomplished through a data-driven performance management approach as outlined under MAP-21, and by utilizing tools such as Under Bridge Inspection Vehicle (UBIV) equipment, rigging and climbing inspection techniques, and underwater inspections. Other aspects of the program scope include emergency damage



Bridge Inspection staff conducting routine inspection of concrete box girder at Smithsonian National Zoo, Washington, DC

inspections, overload permit evaluations, bridge deck studies, and Non-Destructive Evaluation (NDE) of structures. In the past year, the Bridge Inspection Program has reduced costs by implementing inspection trips of two-week duration, thus minimizing travel costs while prioritizing available resources. In addition, the percentage of inspections performed by in-house personnel has increased substantially in recent years, from 21% in 2011 to 54% in 2015. The office continues to meet or exceed the required 120 day turnaround time goal for delivery of inspection reports to the NPS. With expenditures of approximately \$2.9 million for 2015, the office completed inspections for 31 parks, and delivered 100% of the inspection reports within the 120 day period. In order to meet requirements

outlined in the recent NBIS compliance review, the program has made significant strides in updating load rating calculations, with load ratings for several hundred structures currently in progress. Other ongoing action items include the refinement of Fracture Critical member inspection plans, updating the Bridge Inspection Manual to fully address NBIS requirements, and measures to ensure full compliance with Scour Critical response metrics. The office has also been engaged in the re-evaluation of load ratings for the Minuteman transportation network of the U.S. Air Force Global Strike (OMAD) Program. This effort has required substantial research, as well as coordination with several State DOTs. To meet the requirements of the new National Tunnel Inspection Standards (NTIS), the Bridge Inspection Program has expanded the structure database. In addition, the tunnel inventory data has been submitted in accordance with the NTIS, and office personnel have received the necessary training.

National Bridge Inspection Standards (NBIS) Compliance



View of the Great Smoky Mountains from the deck of Bridge 2, Foothills Parkway, Tennessee

The FLH Office of Bridges and Structures (FLH Bridge) was delegated to provide oversight of the 19 Federal bridge inspection programs nationwide to ensure public safety is provided on all federally owned bridges. The oversight is conducted at the Intermediate level through a FHWA risk-based, data driven approach. This approach assesses an agency's National Bridge Inspection Program (NBIP) level of compliance in 23 metrics defined in 5 categories:

Bridge Inspection Organization; Qualifications of Personnel; Inspection Frequency; Inspection Procedures; and Inventory. As part of the assessment, development of an FHWA approved Plan of Corrective Action (PCA) is required for improvement if any deficiencies are identified. FLH Bridge also conducts annual assessments at the Minimum level to follow up on PCA implementation progress. Within three years, the FLH Bridge Office has successfully completed the Intermediate level assessment of all 19 Federal bridge inspection programs, two years ahead of schedule! Assessment of the program was based on a statistically-based random sampling. Items reviewed included: bridge files, National Bridge Inventory (NBI) submittal data, agency's inspection policy, procedures and guidance, inspection manuals, Bridge QA\QC Checklist, protocols, and other inspection related documents. Additional steps included in the review were interviews with inspection personnel, qualification review, and bridge site visits. As a result of the assessments, follow-ups and the assistance of FLH Bridge, all 19 Federal bridge inspection programs significantly improved. As an example of this success, the FS developed PCAs, which were approved by FLH Bridge, that resulted in having 74% of the 23 Metrics for the NBIP either "satisfactory or substantially compliant" status within a 3 year cycle. Next summer, FLH will initiate an additional "Intermediate Review" to identify any additional areas of improvement. As all other federal agencies are also working with FLH Bridge to improve their Bridge Inspection Programs, their level of compliance is tracked annually. Measured data is showing that all agencies have improved in their Bridge Inspection Programs. The assessments not only provide guidance to Federal bridge owners on achieving and maintaining compliance with NBIS regulations, but also present the opportunity for the FLH Bridge to ensure that public safety is provided on all federally owned bridges.

Technical Assistance

NPS Northeast Region Forensic Pavement Investigation Flight 93 National Memorial Ring Road, Pennsylvania

At the request of the NPS, FLH was asked to evaluate and recommend solutions to apparent pavement distress (showing, potholes, settlement and rutting) along the newly constructed Ring Road providing access to the Flight 93 Memorial.



Sean O'Brien, FLH Pavement Engineer capturing field measurements of asphalt pavement rut depth Flight 93 National Memorial Ring Road, Pennsylvania



Pavement corings, soil borings, material samples and Falling Weight Deflectometer (non-destructive) tests were taken to evaluate subgrade support. Both short and long term recommendations were offered. The NPS praised the team for their responsiveness, detailed reporting and sound recommendations.

FLH Hosts Research Scholar

Kanghyun “Kang” Seo, an engineer from the Korean Expressway Corporation in South Korea was chosen to come to the US to learn about Asset Management. Kang spent six months at DOT Headquarters and the remaining year in FLH shadowing several colleagues in different disciplines, as well as our partners in the NPS, FS and USFWS. The main objective of his US visit was to research the Highway Performance Monitoring System (HPMS) and to gain understanding of procedures for collecting, analyzing, maintaining, and reporting pavement data.

Puerto Rico Highway & Transportation Authority (PRHTA) Design and PS&E Development Workshop

At the request of the Puerto Rico Division, three FLH engineers developed, tailored, and presented in Spanish a “Design and PS&E Development Workshop” specialized to the needs of the Puerto Rico Highway & Transportation Authority (PRHTA). Their presentation far exceeded the expectations of the Division and PRHTA. Their work demonstrated and reflected a strong focus for their partner, a passion for their own work, an appreciation to share what they have learned, and to represent all of FHWA. As a result of the workshop the PRHTA Director immediately implemented several recommendations to improve the efficiency and quality of PS&Es.



Course instructors left to right: Katerina Roman-Gonzalez, Highway Design Engineer; Josue Pluguez-Figueroa, Highway Design Engineer; and Isbel Ramos-Reyes, Highway Safety Engineer



Thank You for Your Feedback