

## HOV Pooled Fund Study Quarterly Status Report June 2007

Brief descriptions of current and future projects are provided in the following paragraphs. Additional information can be found at the HOV Pooled Fund Study web page at <http://hovpfs.ops.fhwa.dot.gov/>.

**HOV Facility Performance Monitoring, Evaluation and Reporting Handbook:** The purpose of this project is to develop a handbook that will serve as a technical reference that provides guidance and recommended practices on the need for, how to initiate, sustain, and use information generated from monitoring, evaluating, and reporting on the performance of HOV facilities. This document is intended to be a comprehensive technical reference providing guidance on how to develop, implement, improve, and sustain a continuous performance monitoring, data management, evaluation and reporting program or initiative for an HOV system.

**Project Champion:** Mark Leth (Washington State DOT) and Steve Allen (Tennessee DOT)

**FHWA Work Order Manager:** Neil Spiller

**Contractor Lead:** Katie Turnbull (Texas Transportation Institute)

**Project Cost:** \$300,000 (FHWA Funds)

**Period of Performance:** 20 months

### **Products & Milestones:**

- This project has been completed.
- Available Products: Handbook, Primer, Project Fact Sheet, Tri-Fold Brochure, FAQ's, and Presentations.

**Analysis of HOV Lane Hours of Operations and Eligibility Requirements:** The overall objective of this project is to develop a handbook that will serve as a technical reference that provides guidance and recommended practices on how to assess specific policy-level choices and basic trade-offs related to setting and changing eligibility, operating periods and access restrictions between the HOV lane and general purpose lanes.

**Project Champion:** Mena Lockwood (Virginia DOT) and Wayne Ugolik (New York State DOT)

**FHWA Work Order Manager:** Neil Spiller

**Contractor Lead:** Katie Turnbull (Texas Transportation Institute)

**Project Cost:** \$125,000

**Period of Performance:** 15 months

### **Products & Milestones:**

- Handbook – Final draft version is available on project web page; Final version is pending on the approval of FHWA HOV Guidance.
- Outreach Material (fact sheet, FAQ's) – Final draft versions are available on project web page; Final versions are pending on the approval of FHWA HOV Guidance.

**HOV Lane Enforcement Handbook:** The purpose of this project is to develop a technical document that provides an update of state-of-the practice, with an emphasis on expanding on previous reference material and providing better focus on the use of technology in enforcement activities. Specifically, the effort would review past reference material such as the FHWA Enforcement Requirements for HOV Facilities (1978) and Caltrans HOV Lane Violations Study (1990); obtain input and survey enforcement practice from representatives of enforcement agencies involved in HOV projects, survey current technologies and their applicability to occupancy enforcement and update earlier prototype statutes from the FHWA

Enforcement Requirements for HOV Facilities Guide that could be used to implement automated violation enforcement.

**Project Champion:** Wayne Ugolik (New York State DOT)

**FHWA Work Order Manager:** Jessie Yung

**Contractor Lead:** Ginger Goodin (Texas Transportation Institute)

**Project Cost:** \$150,000

**Period of Performance:** 15 months

**Products & Milestones:**

- Handbook – Final draft version is available on project web page; Final version is pending on the approval of FHWA HOV Guidance.
- Outreach Material (fact sheet, brochure, presentation, and FAQ's) – Final draft versions are available on project web page; Final versions are pending on the approval of FHWA HOV Guidance.
- White Paper – Available on project web page.

**HOV Lane Safety Considerations Handbook:** The purpose of this project is to develop a technical document addressing the issues, experience, considerations and best practices for safety enhancements of HOV facilities. Specifically, this effort will review existing reference materials, HOV facilities, facility operators and design practitioners throughout the United States in order to inventory existing guidance, practice and performance results, and develop guidance for design and operational considerations and recommended practices for safe design and operations of HOV facilities.

**Project Champion:** Laine Rankin (New Jersey DOT) and Mena Lockwood (Virginia DOT)

**FHWA Work Order Manager:** Jessie Yung

**Contractor Lead:** Ginger Goodin (Texas Transportation Institute)

**Project Cost:** \$200,000

**Period of Performance:** 16 months

**Products & Milestones:**

- Handbook – Final draft version is available on project web page; Final version is pending on the approval of FHWA HOV Guidance.
- Outreach Material (fact sheet, brochure, presentation, and FAQ's) – Final draft versions are available on project web page; Final versions are pending on the approval of FHWA HOV Guidance.
- White Paper – Available on project web page.

**Analysis of HOV Lane Hours of Operations and Eligibility Requirements – Primer, Tri-Fold Brochure, and Presentations:** The focus of this project is to develop additional outreach materials that were not covered in the initial phase of the project to assist in facilitating the transfer and use of the concepts and practices included in the technical reference to non-technical audiences that are critical to implementing and support HOV operation. These outreach materials will identify for a non-technical audience the key aspects and issues for their agencies to consider, the benefits and/or value, recommended practices and lessons learned, and profile successful practices.

**Project Champion:** Mena Lockwood (Virginia DOT) and Wayne Ugolik (New York State DOT)

**FHWA Work Order Manager:** Neil Spiller

**Contractor Lead:** Rob Fernandez (Woodward Communications)

**Project Cost:** \$35,000

**Period of Performance:** 6 months

**Products & Milestones:**

- This project has been completed.
- Primer, tri-fold brochure, and PowerPoint presentation have been submitted and posted on the project webpage.

**HOV Facility Inventory and Clearinghouse:** The overall objective of this project is to promote the exchange of HOV facility information between practitioners. By surveying HOV practitioners, consistent communication protocols can be established for the most commonly collected HOV data. Recipients would primarily be HOV practitioners at every level, and anybody with interest or knowledge in HOV related subjects with a need for information or desire to impart knowledge to others.

**Project Champion:** Jessie Yung

**FHWA Work Order Manager:** Jessie Yung

**Contractor Lead:** Jeff Benson (URS)

**Project Cost:** \$100,000

**Period of Performance:** 14 months

**Products & Milestones:**

- Enhanced HOV facility inventory and web site – Draft web site is available for review; Final web site – October 2007.
- Outreach material (fact sheet, presentations, and FAQ's) – September 2007.

**Implications of Lane Pricing on Existing HOV Lanes:** The purpose of this project is to develop a technical document that identifies technical, institutional, and organizational implications and provides guidance and recommended practices on planning and implementing pricing techniques on converting existing High Occupancy Vehicles (HOV) lanes into High Occupancy Toll (HOT) lanes. This project will build off of the FHWA HOT Lane Development Guide and provide more detailed guidance, procedures, and processes to assist practitioners in implementing pricing techniques on existing HOV lanes.

**Project Champion:** Mena Lockwood (Virginia DOT)

**FHWA Work Order Manager:** Jessie Yung

**Contractor Lead:** Gene Kim (Booz Allen Hamilton)

**Project Cost:** \$150,000

**Period of Performance:** 14 months

**Products & Milestones:**

- Final annotated outline – April 2007.
- Handbook – draft version in June 2007 and final version in August 2007.
- Outreach material (fact sheet, presentations, and primer) – October 2007.

**Automated Vehicle Occupancy Technologies Study:** The objective of this project is to identify, compile, and systematically evaluate concepts, methods, and technologies for automated vehicle occupancy detection, verification and enforcement that are being researched, under development and on the horizon in the United States and abroad. Findings of this project will assist in identifying, developing, and implementing cost-effective, automated techniques for verifying and enforcing vehicle occupancy to continue offering high occupancy vehicle (HOV) preference in an effective way.

**Project Champion:** Laine Rankin (New Jersey DOT) and Mark Leth (Washington State DOT)

**FHWA Work Order Manager:** Jessie Yung

**Contractor Lead:** Ginger Goodin (Texas Transportation Institute)  
**Project Cost:** \$100,000  
**Period of Performance:** 12 months

**Products & Milestones:**

- Annotated outline – Available on project web page.
- Synthesis report – Available on project web page.
- White paper – draft version submitted in May 2007; final expected in July 2007.
- Outreach material (fact sheet and presentation) – July 2007.

**HOV Marketing Handbook – Revision:** This effort will perform a comprehensive revision on the existing HOV Marketing Manual. It will update current experience, fill these gaps and needs, and provide renewed marketing strategies to guide practitioners toward effective and successful outreach and marketing efforts. This effort will clearly define resources needed for ongoing marketing and public awareness activities, and provide example programs outlining how to reach out to key stakeholders (i.e., elected officials, local agencies, environmental advocacies and affected commuters) who have in the past had greatest impact on longevity of HOV lanes in operation.

**Project Champion:** Mena Lockwood (Virginia DOT)  
**FHWA Work Order Manager:** Jessie Yung  
**Contractor Lead:** TBD  
**Proposed Cost:** \$150,000  
**Estimated Period of Performance:** 14 months

**Products & Milestones:**

- Project initiation – Anticipated in July/August 2007.
- Products to be produced: A revised HOV Marketing Manual, and outreach material (fact sheet, tri-fold brochure, and presentations).

**Evaluation of Markings and Delineation for Concurrent Flow HOV Lanes:** This research will address the impact of different marking patterns on HOV facility operations, safety, and enforcement. Operational and safety data will be reviewed, quantitative measures will be developed; and case studies will be performed to evaluate the pros and cons of different types of markings for HOV lanes. Finally recommendations on markings for concurrent flow HOV facilities will be made.

**Project Champion:** Hani Eissa (Caltrans)  
**FHWA Work Order Manager:** Jessie Yung  
**Contractor Lead:** TBD  
**Proposed Cost:** \$200,000  
**Estimated Period of Performance:** 18 months

**Products & Milestones:**

- Project initiation – Anticipated in October 2007.
- Products to be produced: A research report, a white paper, and outreach material (fact sheet and presentation).

**HOV/HOT Facility Planning Handbook:** This project will develop a handbook that identifies the process to follow, issues to consider, methodologies and tools to use, and techniques and analyses to perform and provides guidance and recommended practices on planning HOV and HOT facilities and

projects. This project will build off of and provide additional detail and guidance to the information presented in the existing HOV Systems Manual and HOT Development Guide.

**Project Champions:** Mena Lockwood (Virginia DOT)

**FHWA Work Order Manager:** Jessie Yung

**Contractor Lead:** TBD

**Proposed Cost:** \$250,000

**Estimated Period of Performance:** 18 months

**Products & Milestones:**

- Project initiation – Anticipated in December 2007.
- Products to be produced: A handbook, a primer, and outreach material (fact sheet, brochure and presentation).

**HOV Facility Demand Estimation Techniques:** This project will review and synthesize the techniques, models, and tools that are currently available for forecasting HOV/HOT demand and provide recommendations for further research to advance practices in this subject area.

**Project Champion:** Adriel Edwards (Massachusetts EOT)

**FHWA Work Order Manager:** Jessie Yung

**Contractor Lead:** TBD

**Proposed Cost:** \$120,000

**Estimated Period of Performance:** 12 months

**Products & Milestones:**

- Project initiation – Anticipated in December 2007.
- Products to be produced: A white paper and outreach material (fact sheet, brochure and presentation).