

QUARTERLY PROGRESS REPORT

Fiscal Year 2015/2016 , Quarter 4th

Caltrans Task Manager: John Slonaker Task ID/Project ID (for Caltrans use only): 2808

Task Order No.: TO 023 Contract No.: 65A0529

1. Task Title: Performance Analysis and Control Design for Onramp Metering of Merging Bottlenecks
2. Describe last quarter's tasks/deliverables:

During the fourth quarter of 2015-16 from April to June, 2016, we have focused on the fifth task, which to write the final report and draft papers for Journal submission. We have been revising an article entitled "System Performance and Controller Design of the PI-ALINEA Ramp Metering Scheme", which was presented in the 2016 TRB Annual Meeting and plan to submit it to a journal.

In addition, we submitted a paper, entitled "Queue Based Model Predictive Control for Local Ramp Metering", for presentation in the 2016 IEEE ITSC. In this study we proposed a new ramp metering algorithm to minimize queues on roads.

The final report comprises of the aforementioned two studies and the other two: "Incorporating a Smith Predictor into Ramp Metering Control of Freeways", which was submitted for presentation in the 55th IEEE Conference on Decision and Control, 2016; "Paradoxical behavior of traffic control systems", which will be presented in the 2016 CICTP conference.

3. Describe next quarter's tasks/deliverables and their due dates:

The project has finished. We will write and submit a final report for the whole project in the coming month.

4. Describe Project Status:

- Are you on time with your schedule?

 YES NO

- Are you on budget?

 YES NO

- Are you on scope?

 YES NO

If the answer to any of the above is NO, please explain below:

5. Estimated percent of work completed: 100 %
 Estimated percent of budget expended: 100 %

6. What are your expenditure projections for the next four quarters or until the project's end?

FY 15/16; Q1	FY 15/16; Q2	FY 15/16; Q3	FY 15/16; Q4
\$	\$	\$	\$

Use this area for any additional information. Clearly identify which Section this information applies to.

N/A

Submitted By: Wenlong Jin

Date: 2/10/2016