

VII TOLLING AND PAYMENT APPLICATIONS

CONCEPT OF OPERATIONS

DRAFT OUTLINE

Executive Summary

This section will define the CONOPS in a very high level, with a brief summary of benefits, limitations, advantages, disadvantages considered for the proposed system. It will also outline the full document, to enable readers to choose a chapter to investigate in more detail if desired.

Glossary -

A clear and concise compilation of terms and definitions used in the ConOps document. All definitions will be reviewed and agreed upon by parties involved in contribution to or writing the ConOps.

1 INTRODUCTION: PROJECT SCOPE

1.1 Outline

1.2 Purpose and Need

1.2.1 Expansion of VII – Development of OmniAir

1.2.2 VII Opportunities & Challenges for the Toll Industry

1.3 Goals and Objectives

1.4 Intended Audience

1.5 Scope Limitations

1.6 System Vision

2 REFERENCE DOCUMENTS

2.1 OmniAir

2.2 VII

2.3 Toll Agency and IBTTA Statistics and Reports

2.4 Other Payments Industry References

3 USER-ORIENTED OPERATIONAL DESCRIPTION

3.1 User Activities

3.1.1 Customers – Toll Road Drivers Paying and Using Toll Facilities

3.1.2 Toll Operators – The Highway Service Provider

3.1.3 Third Parties – Providers of Vehicles, Technologies and Account / Payments Services

3.2 Order of User Operations – Use Case Concepts

3.2.1 Customers Paying Tolls

3.2.2 Toll Collection Operators and Service Providers

3.2.3 Account / Payments Service Providers

3.3 Operational Process Procedures

3.3.1 Concept-Level Business Process Maps for Toll Collection

3.4 Organization Structures and Relationships

- 3.4.1 Toll Operator Customer Relationships
- 3.4.2 Toll Operator Relationships with Other Agencies
- 3.4.3 Toll Operator Relationships with Third Parties

4 OPERATIONS REQUIREMENTS

- 4.1 Customer Appeal – A Value Proposition**
- 4.2 Customer Understanding**
- 4.3 Customer Compliance**
- 4.4 Customer - Vehicle Operational Safety**
- 4.5 Contractual Controls with Other Parties**
- 4.6 Financial Soundness**

5 SYSTEMS OVERVIEW

- 5.1 Overall**
- 5.2 Toll Roadside Environment**
- 5.3 Toll Operators' Domain – A VII Subsystem**
- 5.4 CSC and Non-Agency Issuing Authorities**

6 OPERATIONAL AND SUPPORT ENVIRONMENT

- 6.1 Toll Facilities**
 - 6.1.1 Alternate Toll Concepts
 - 6.1.2 Mixed-payment Mode Lanes
 - 6.1.3 Dedicated Lanes
 - 6.1.4 High-Speed / Plaza-less Tolling (Express / ORT / HOT)
- 6.2 Toll Technology (Systems, Equipment, Hardware and Software),**
 - 6.2.1 Roadside Toll System,
 - 6.2.2 Communications Infrastructure,
 - 6.2.3 Host Systems – Front and Back Office Systems,
- 6.3 Operations Personnel / Third Party Providers**
- 6.4 Support Necessary to Operate the Deployed System**
 - 6.4.1 Legal Authority in Legislation and Operations Rules
 - 6.4.2 Contractual Agreements and Controls
 - 6.4.3 Inspection and Verification

7 OPERATIONAL SCENARIOS

- 7.1 User's Perspectives**
 - 7.1.1 Customers
 - 7.1.2 Toll Operators
 - 7.1.3 Third-Party Providers
- 7.2 Variety of User Classes**
 - 7.2.1 Public vs. Private Toll Operators
 - 7.2.2 Private vs. Commercial Customers / Drivers
 - 7.2.3 CSC Operations by Toll Operators and by Third Parties
- 7.3 Stress / Failure Scenarios**
 - 7.3.1 System Overload

- 7.3.2 Lost Revenue
- 7.3.3 Degraded Traffic Operations
- 7.3.4 Potential Safety Problems
- 7.4 Multiple Scenarios and Exceptions**
- 7.4.1 Identifying Problems and Issues
- 7.4.2 Reacting to Unexpected Events
- 7.4.3 Redundancy and Flexibility

8 TRANSITION AND IMPLEMENTATION ISSUES

This is a discussion section outside of the standard CONOPS outline, in which we will discuss some of the institutional impacts and transition issues relating to adoption of the proposed CONOPS. This outline may be changed substantially during development of the project.

- 8.1 Scope of Effort Required to Migrate to VII Tolling.
- 8.2 Technical / Research & Development Impacts and Issues
- 8.3 Results from OmniAir EPSNIS Reference Implementation Test
- 8.4 Timeline Issues
- 8.5 Current and Projected ETC Subscriber Levels
- 8.6 Technology Transition Issues
- 8.7 Supplier Transition Issues
- 8.8 VII Operations Methodology and Costs
- 8.9 Level of Service Expectations
- 8.10 Ownership of RSE's and other relevant equipment
- 8.11 New vs. existing toll agencies

9 Notes

This section will include any additional information that will aid in understanding the concept of operations document

Appendices and Stakeholder Commentary

The Stakeholders participating in this ConOps development will be given opportunity to provide commentary for addition to the document. In addition, other reference or related information may also be placed in appendices.