
Tolling

Strategic Considerations

December 12, 2012

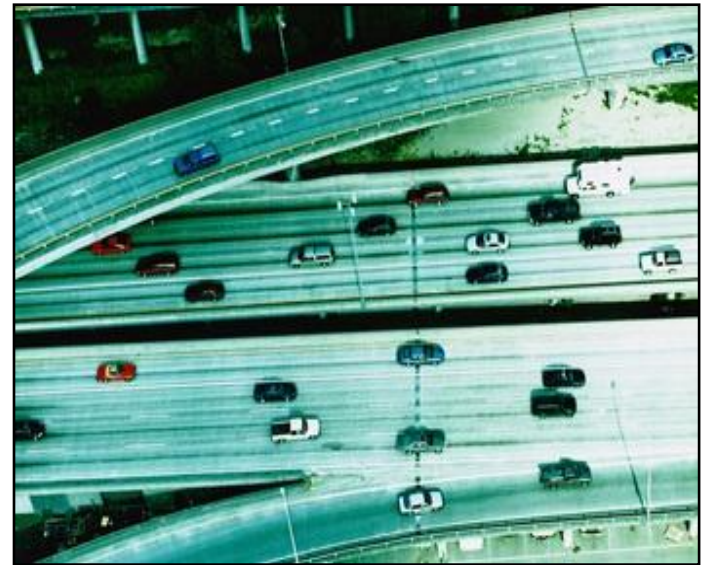
Introduction

- The focus of this presentation is to highlight the elements that an agency should be aware of over the life of a tolling project
- Agencies across the world and in the U.S. have shown to be effective owners of tollways by following leading practices and identifying/mitigating risks
- Understanding the things to be aware of is the first step



Agenda

- Initial Strategic Scoping and Options Appraisal
- Project Planning and Development
- Procurement
- Operations
- Asset Management



Tolling Project Lifecycle

Initial Strategic
Scoping and
Options
Appraisal

Project
Planning and
Development

Procurement

Operations

Asset
Management

- Define agency objectives
- Options appraisal
- Project evaluation criteria
- Programmatic tolling policy
- Develop strategic plan

- Developing stakeholder support
- Identify regulatory requirements
- Establish project tolling policy
- Risk identification and allocation
- Funding considerations

- Determining services required for project
- Selecting procurement method
- Contract structuring and management
- Incentivizing operator performance

- Internal controls and reporting framework
- Back office functionality
- Compatibility with tolling interoperability
- Commercial arrangements for tolling interoperability

- Roadside facilities
- Back office updates
- Legislative changes
- Customer updates

Initial Strategic Scoping & Options Appraisal

- ❑ Strategic plan needed to provide agency with direction
- ❑ Forms the basis of how the agency will achieve its objectives
- ❑ Agency objectives developed based on input from internal and external stakeholders
- ❑ Options appraisal during plan development provides guidance on how to achieve objectives
- ❑ Agency prioritization of projects based on agency's objectives
- ❑ Decision to toll projects based on objectives in the strategic plan

Transportation agencies in states such as Nevada, Texas and Virginia have each set up offices to develop projects based on their strategic plan.

Initial Strategic Scoping & Options Appraisal

Define Agency Objectives

- Clear objectives provide a mark against which decisions can be made
- Defining objectives allows strategy to be clearly defined
- Developing a strategic plan allows agency to understand what needs to be done to achieve objectives



Initial Strategic Scoping & Options Appraisal

Options Appraisal

- There are multiple approaches to achieve an objective
- Options assessment seeks to
 - Identify the range of options available
 - Develop how each option could be implemented
 - Establish a method for assessing/evaluating each option
- Provides documentation to support how and why the preferred option was selected



Initial Strategic Scoping & Options Appraisal

Options Appraisal (continued)

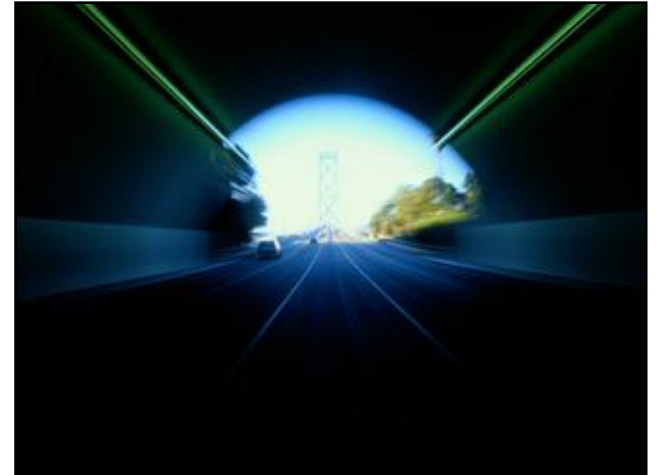
- Part of meeting each objective may include
 - Degree of stakeholder support or objection
 - Technology used and its lifecycle
 - Legislative requirements (is new legislation required?)
 - Degree of control/oversight required
 - Feasibility
 - Schedule
 - Options for procurement
 - Risk transfer/retention
 - Tolling policy



Initial Strategic Scoping & Options Appraisal

Strategic Plan

- Draft of strategic plan will specify agency's objectives
- Define the options selected to achieve the agency objectives
 - May include specific tolling policy or limit tolling policy options
- To encourage stakeholder support, should be published for comment
- Once final, should be published
- Project plans should address how they follow the agency's strategy and meet its objectives
- Should be reviewed on annual or biennial basis



Project Planning & Development

Project Plan

- Project plan is produced when a project is selected for development
- For toll projects project plan will need to address operations and maintenance
- Development of a toll project without addressing operations and maintenance plan jeopardizes the project's ability to achieve its objectives
- Key components of a toll project's planning and development include
 - Establish project goals and objectives
 - Achieving stakeholder support
 - Addressing regulatory requirements
 - Project's tolling policy
 - Risk allocation
 - Funding considerations



Project Planning & Development

Stakeholder Support

- No project can be built without some level of stakeholder support
- Toll projects often require increased interaction with stakeholders
 - During environmental process stakeholder communication often a focus
 - Communication strategy needed for all phases, not just for environmental approval
- Annual review of Stakeholder Management Plan incorporating all phases
- Benefits of tolled project need to be clearly expressed as they are not always obvious



Project Planning & Development

Regulatory Requirements

- ❑ Toll projects may need to meet a number of regulatory requirements
- ❑ Identifying the requirements often requires input from a range of sources
- ❑ Approach to standard requirements is typically known
- ❑ Developing a schedule of how and when requirements can be met is necessary
- ❑ Many requirements can only be met once a year (e.g MPO approval)

Legislative authority is required for some project delivery methods in Texas. As the legislature meets once every two years, TxDOT undertakes a program to evaluate all potential projects before each session so they have the necessary approvals to move forward.

Project Planning & Development

Tolling Policy

- ❑ Decisions on tolling policy affect project economics and stakeholder support
- ❑ Policy may already be set by legislative or regional transportation policies which may project's flexibility
- ❑ Some policies like congestion pricing can be used to address not just project funding, but also regional mobility
- ❑ Development of project plan needs to consider both quantitative and qualitative aspects of the tolling policy



Project Planning & Development

Risk Identification & Allocation

- Essential to any toll project is to identify, quantify, and allocate the project's risks
- Risk workshops with project stakeholders
 - Often best to have large workshop to identify long list of risks
 - Follow up with targeted workshops to quantify and allocate
 - Mitigation strategies also assist in allocation process
- Allocation of project risks will impact many of the project's commercial aspects
- Development of a risk register will assist in tracking risk allocation
- Risk register should be revisited regularly
 - Allows new risks to be addressed
 - Removes risks no longer relevant
 - Ensures that changes to the risk allocation are intentional

Project Planning & Development

Funding Considerations

- Funding of the project will be driven by the project objectives and risk allocation
- Funding approaches for tolled projects will need to consider
 - Tolling policy
 - Authority and approvals required
 - Stakeholder support
 - Alternative or innovative finance arrangements
- Cost and revenues will need to be developed and benchmarked
 - New operators will need extra effort to understand operating costs
- Additional revenue sources or services may be considered

Orange County Transportation Authority (OCTA) has a policy to use tolls, not just to pay for projects, but also for congestion relief

Procurement Development

- Procurement process is not just scope driven, but also risk allocation driven
- Procurement needs to be consistent with risk allocation
 - If integration risk to be transferred then roadside equipment and back office should be procured together
- Procurement documents
 - Scope of work clear needs to be clearly defined
 - Including the proposed contract reduces need to negotiate later



Procurement

Procurement Method Options

- There is a continuum of procurement options but with each comes different commitments by agency management

Involvement in Procurement by Senior Agency Management

À la carte Approach	Hybrid Approach	Turn Key Approach
<ul style="list-style-type: none">■ Separate contracts for design, construction, maintenance, tolling equipment, tolling back office■ Allows use of standard contracts for each component■ Standard contracts require little input by senior management■ Has limited risk transfer■ Easy to implement■ Agency retains high level of interface risk	<ul style="list-style-type: none">■ Use design-build contract or even design-build-operate-maintain contract■ Number of additional contracts at agency discretion. May include tolling equipment, tolling back office or maintenance■ More risk transferred requiring additional negotiations during procurement■ Higher level of risk transfer■ Interface risk reduced	<ul style="list-style-type: none">■ Single contract to develop, finance, operate and maintain■ Complex contract due to large scope and term■ Significant negotiations required often with policy decisions■ Highest level of risk transfer■ Interface risk transferred

Procurement

Procurement Process

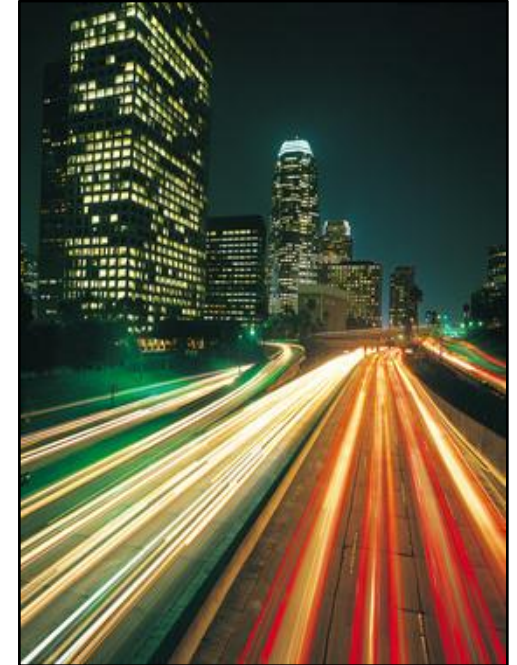
- Market soundings and industry forums are effective ways to both create and judge interest
- For large or complex projects a 2-step procurement process is often preferred
 - RFQ allows for focus on can they do the work? / are they a potential partner?
 - RFP allows for final selection to be based on the value being provided
- Development of scope and contract documents before issuance of RFQ assists in refining project scope, commercial approach and risk allocation
- One step procurement useful when the scope and contract are well known and a large number of qualified firms exist
- Evaluation process needs to be clear and transparent

Colorado's High Performance Transportation Enterprise (HPTE) held an industry forum for its US36 project. Industry interest developed at the forum led to HPTE receiving RFQ's from four highly qualified teams on HPTE's first project.

Procurement

Incentivizing Higher Performance

- ❑ Competition during procurement can result in commitments for higher performance
- ❑ Incentives in the evaluation criteria can improve performance
- ❑ Minimum desired performance level must be specified
- ❑ Too many options or unclear scoring can confuse proposers
- ❑ Incorporate proposal commitments into contract



Operations

Operating Metrics

- ❑ Operation of toll facility is more complex than standard roadway
- ❑ Performance metrics extend beyond routine road maintenance
- ❑ On-road operations may include metrics for
 - Congestion management (HOT or express lanes > 45 mph)
 - Incident management response times
 - Limits on lane closures
- ❑ Off road operations may include metrics for
 - Timely and accurate billing
 - Customer service (e.g. call response time)
 - Violation processing
 - OCR (Optical character recognition) accuracy with video or license plate tolling

Virginia's 495 Express Lanes requires the developer to maintain 45 mph in the express lanes but also imposes a performance regime which if not met could terminate the agreement – ensuring that the developer provides a high level of service.

Operations

Back Office Functionality

- ❑ Back office to process transactions and manage customer accounts will be needed
- ❑ Projects which are expansions of existing systems may not require new back office just capacity upgrades
- ❑ In addition to basic transaction processing, services may include violation processing, video tolling image review, customer billing, customer call center, tag distribution and walk in services
- ❑ Projects with video tolling often require larger staff
- ❑ For projects where all accounts belong to another entity, a “middle” office may only be needed

Private toll operators in Indiana, Texas and Virginia have started to leverage existing back offices by entering into agreements with existing agencies and developing middle offices.

Operations

Interoperability

- Regardless of location, a plan for interoperability is needed
- Interoperability can be defined several ways, including
 - Ability to uniquely identify user with a tag or transponder from another agency
 - Ability of user to use their account from another agency
- Interoperability strategy can include
 - Not interoperable and rely on video or cash tolling
 - Enter into inter-agency interoperability agreement (E-Z Pass / FasTrak)
 - Form a regional clearing house
- Enforcement options and costs for violators must be considered
- Approach may be driven by geography, technology or enforcement

Any agency considering a toll project will have to develop a strategy for interoperability as interoperability is a requirement under MAP-21.

Asset Management

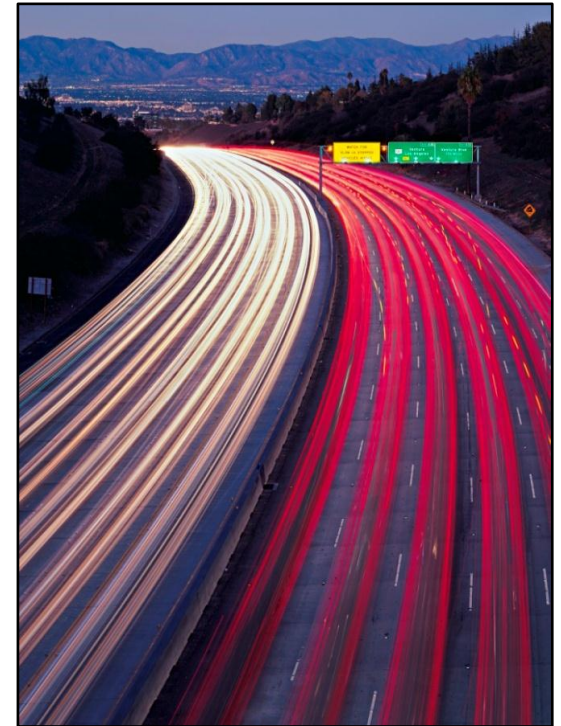
Asset Management Plan

- A well established asset management plan ensures systems are up and running as to meet customers' expectations
- Provide clear performance measures to drive reliability of the system
- An ineffective asset management plan can result in excessive failures of systems
 - Loss of stakeholder support
 - Reduced revenues
- Tolling projects have additional components that require more extensive asset management plans

Asset Management

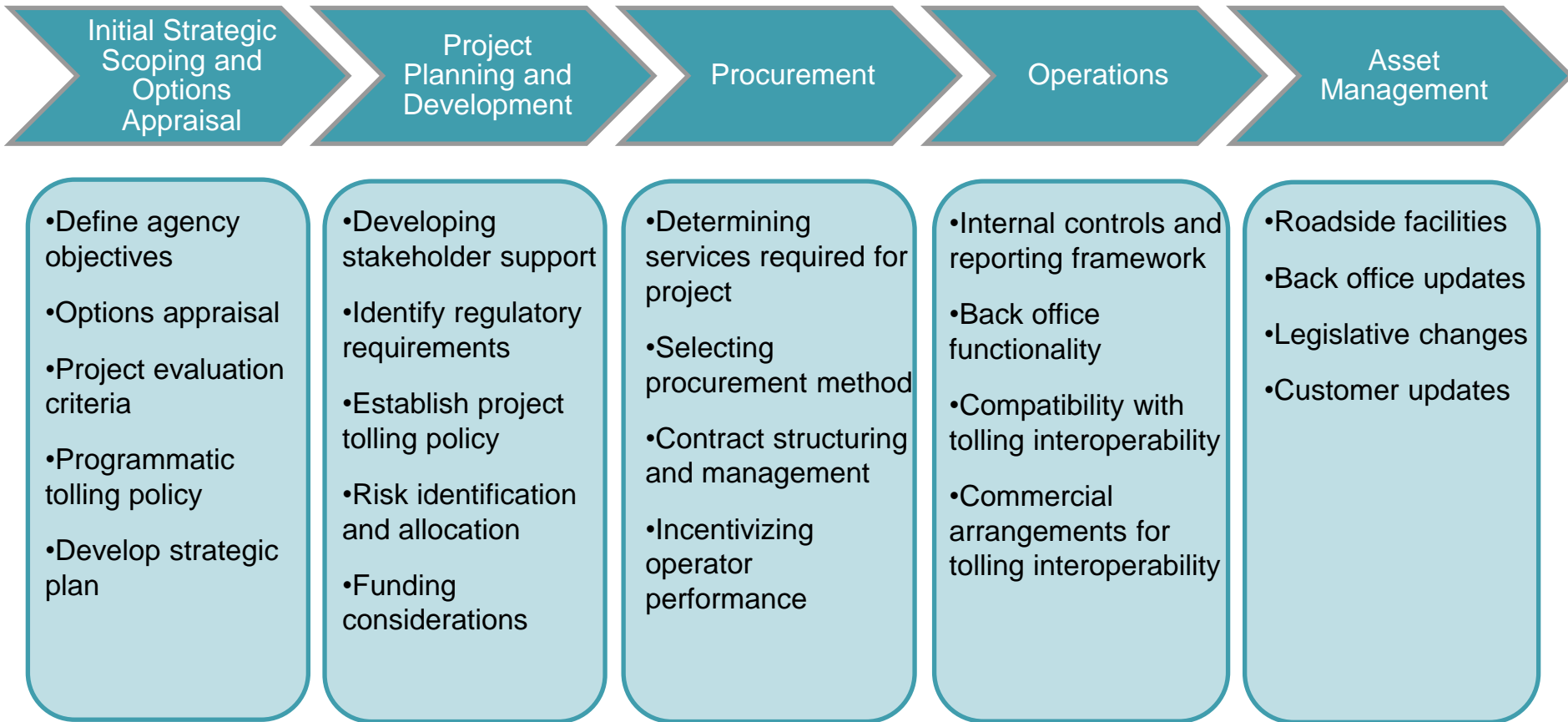
Tolling asset management

- Operational success of a toll project is driven by the performance and reliability of the roadside and back office
- Asset management for a toll project needs to address:
 - ITS systems (Dynamic pricing signs, radar, readers, communications equipment, fiber, loops, etc)
 - Ensuring accuracy and reliability of customer account data
 - Replacement program of transponders
 - Updating systems to keep up with the latest customer service standards



Tolling Project Lifecycle

- Agencies can, and are likely to, have projects in each phase of the lifecycle



Thank you



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