

Towards Effective Inter-organizational Partnerships in Trans-Border Supply Chains

by

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PRESENTATION OUTLINE

- ❑ Lest we forget ...Gateways → Gateway (Border) governance
- ❑ A post-9/11 border governance priority: security
- ❑ Controlling the costs of national and supply chain security
- ❑ Inter-organizational partnerships (IOP) around security:
 - ❑ *Inter-governmental: Mutual Recognition Arrangements*
 - ❑ *Government and firms:*
 - ❑ *SC security validation*
 - ❑ *Border traffic flow control*
- ❑ Gateway/Corridor implications and issues

BORDER GOVERNANCE POLICIES

ACE: the USA's Automated Commercial Environment

ACI: Canada's Advance Commercial Information System

ACROSS: Canada's Accelerated Commercial Release Operations Support System

AMPS: Administrative Monetary Penalty System

AMS: the USA's Automated Manifest System

CADEX: Customs Automated Data Exchange System

CDRP: Commercial Driver Registration Program

CSA: Canada's Customs Self Assessment

CSI: the USA's Container Security Initiative

C-TPAT: Customs Trade Partnership Against Terrorism

eManifest System: Electronic Manifest System (third generation ACI)

FAST: Free and Secure Trade

PARS: Canada's Pre-arrival Review System

PIC: Canada's Partners in Compliance

PIP: Canada's Partner's in Protection

WHTI: Western Hemisphere Travel Initiative

A BUSINESS VIEW OF SECURITY

STATED GOVERNMENT/NATIONAL POLICY GOAL

Facilitate the flow of legitimate trade through trans-border gateways/corridors; i.e., trade with minimal risk of harm to national security

GOVERNMENT'S DEMAND ON THE PRIVATE SECTOR

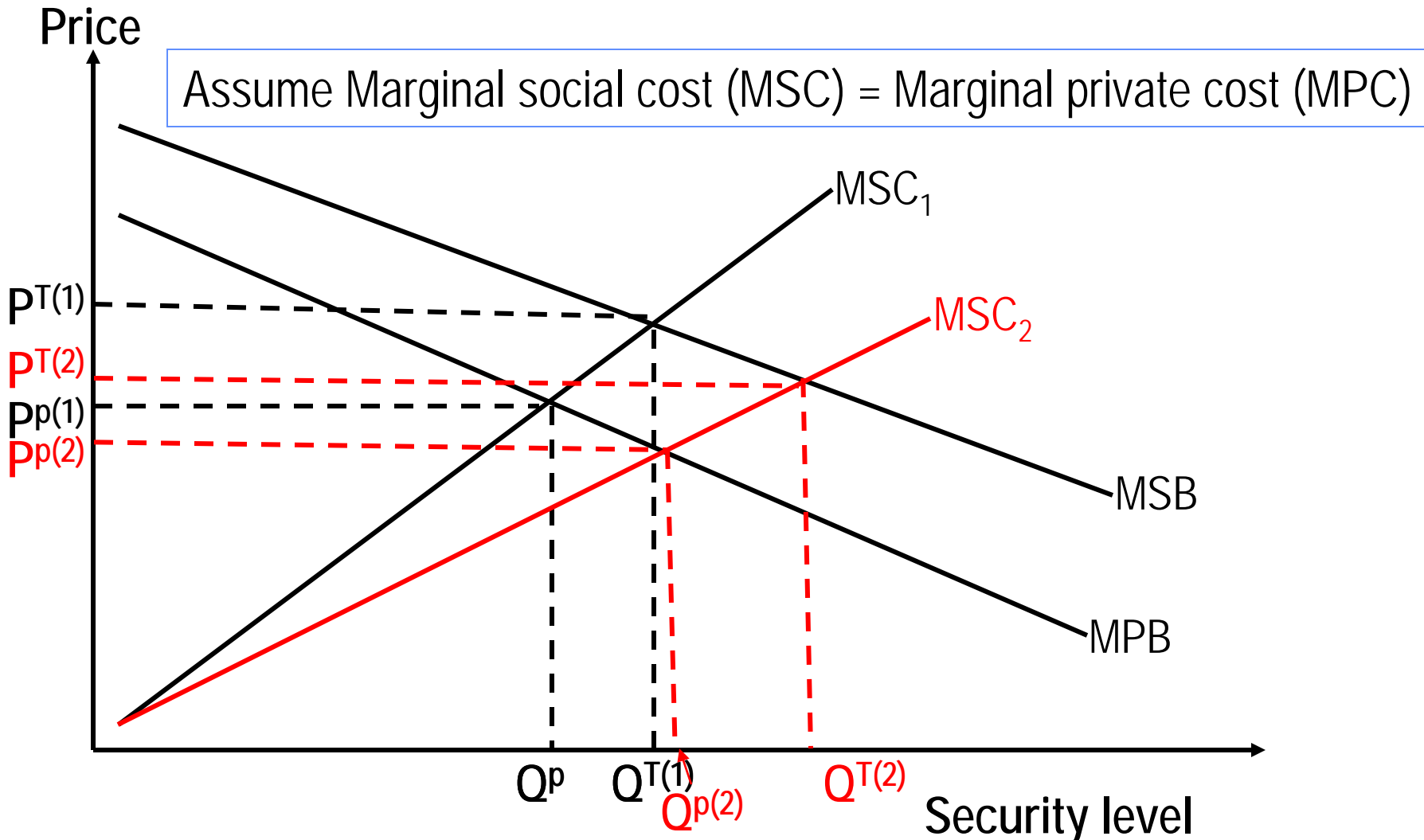
Invest in securing supply chains to prove that they present minimal risk of being conduits for or a targets of attacks on national security; i.e., supply chain security investments to become compliant with programs such as Free and Secure Trade (FAST)

PRIVATE SECTOR'S DEMAND ON ITSELF

Cost-effective and beneficial compliance with trade security and shipment expediting programs

SECURITY: SHIFT IN FOCUS NEEDED?

The attainment of border security goals could benefit from a (complementary) greater focus on cost containment



IOP #1: MRAs and learning

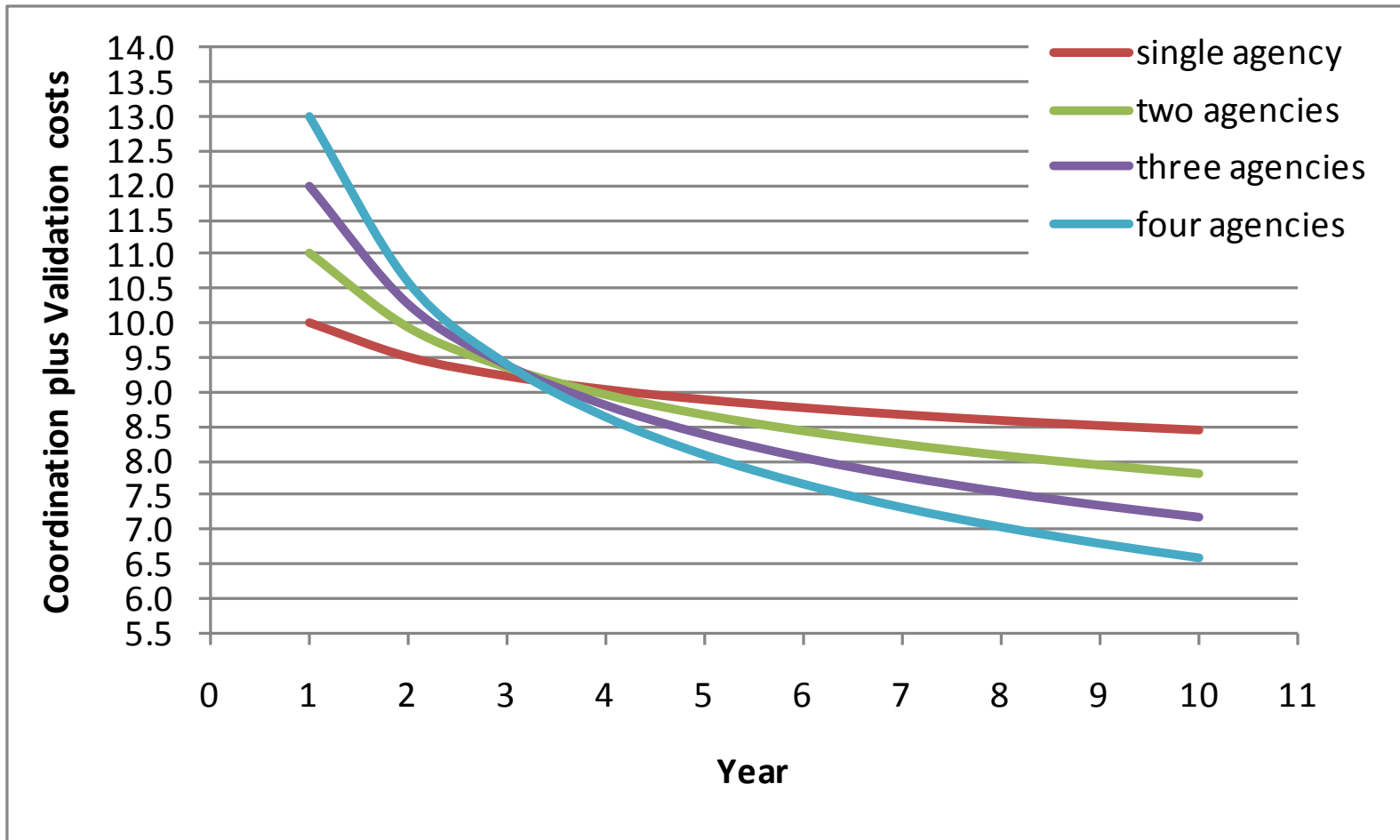
VARIABLE/FACTOR, SYMBOL (and ILLUSTRATIVE VALUE)

- ❑ Number of countries in the MRA the Border agency participates in: n
{ $n = 1, 2, 3, 4$ }
- ❑ The agency's total cost of validating firms' supply chain security in year t :
 $C_{1,t}$ { $C_{1,1} = 10$ }
- ❑ The agency's total cost of coordinating with other agencies in the MRA in year t : $(n-1)C_{2,t}$ { $C_{2,1} = 1$ }
- ❑ The agency's **internal** learning curve rate for cost-effective execution of validation audits and participation in inter-organizational initiatives: r (0.90)
- ❑ The agency's **MRA-based** learning curve rate for cost-effective execution of validation audits and participation in inter-organizational initiatives: r_E { $= r^n$ }

Sum of validation cost and MRA coordination cost =

$$C_{1,t} + C_{2,t} = \left(C_{1,1} + (n-1)C_{2,1} \right) \times t^{\ln(r_E) \div \ln(2)}$$

IOP #2: MRAs and learning



Over time, the agency's ability to learn of promising cost reduction initiatives is likely to be enhanced through the MRA

IOP #2: SUPPLY CHAIN SECURITY VALIDATION

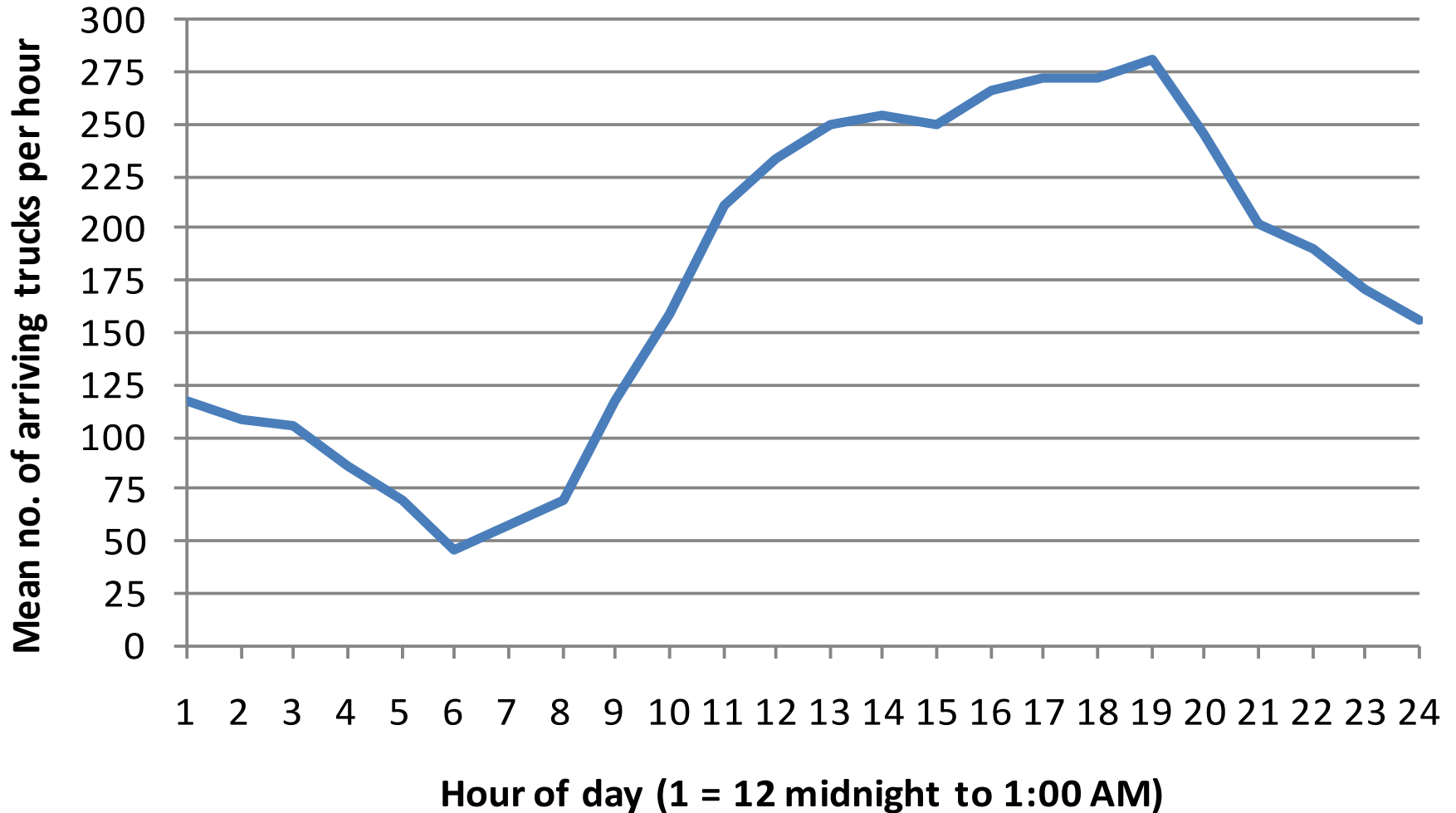
INITIATIVES BY BUSINESSES AND GOVERNMENT

OUTCOMES

	<u>Company</u> Efficiently facilitate the Border agency's personnel performing validation audits	<u>Border agency</u> Disseminate companies' cost-effective best practices for both validation audits and supply chain security
Reduction in company's validation cost	<i>More efficient facilitation can automatically translate to more efficiency for the company itself</i>	<i>Efficient facilitation practices can be adopted by validated companies for future audits and by other companies for the first audit.</i>
Reduction in the Border agency's validation cost	<i>The Border agency benefits directly from more efficient facilitation by company</i>	<i>Successfully encouraging un-validated companies to become validated will raise a Border agency's experiential learning and competence in doing cost-effective validation audits.</i>
Larger proportion of firms becoming validated	<i>Provides solid empirical data for the Border agency to use in encouraging un-validated companies to seek validation.</i>	

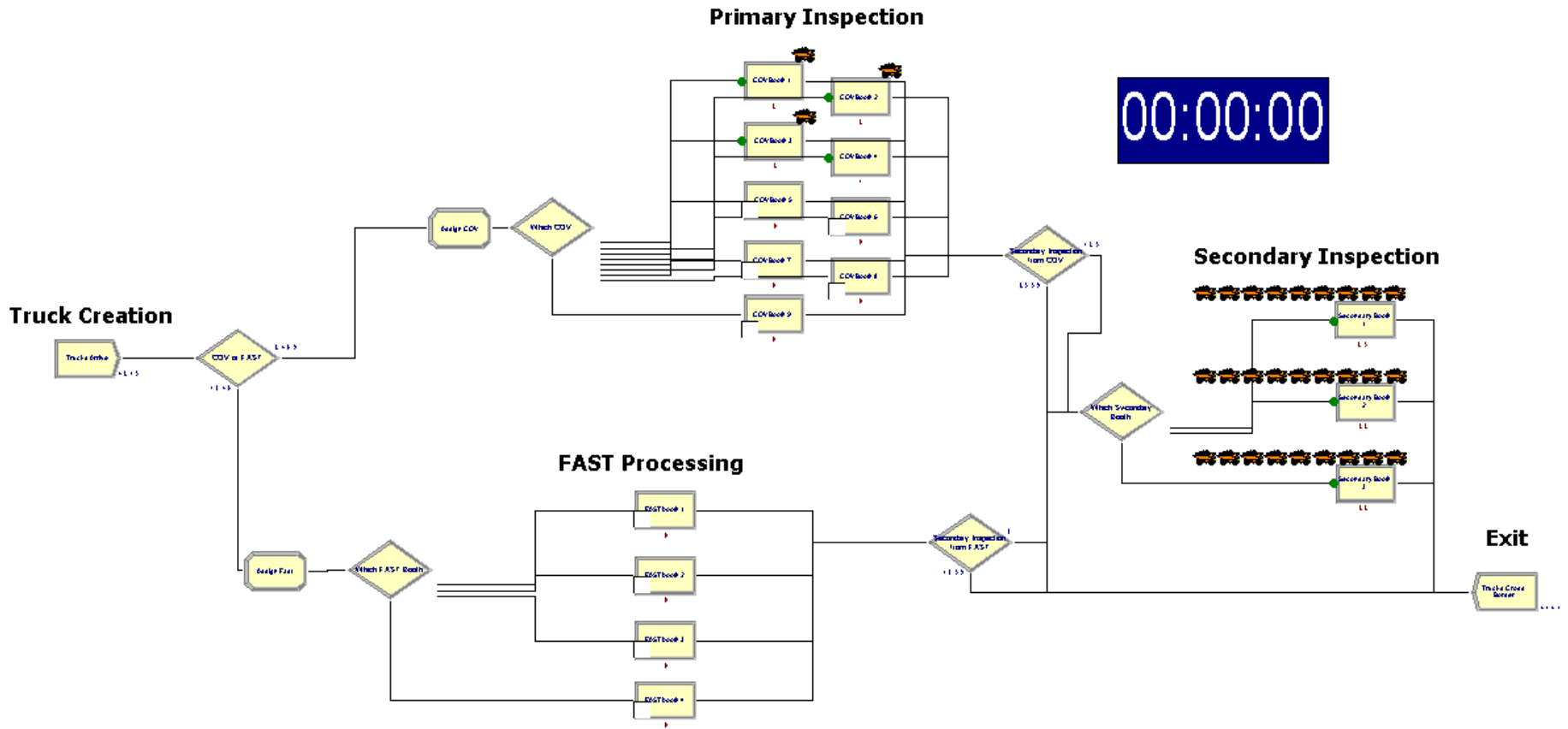
IOP #3: BORDER TRAFFIC FLOW CONTROL

ESTIMATED HOUR-TO-HOUR CHANGES IN MEAN ARRIVAL RATE THROUGH DETROIT-WINDSOR USING US BTS WAIT TIME DATA

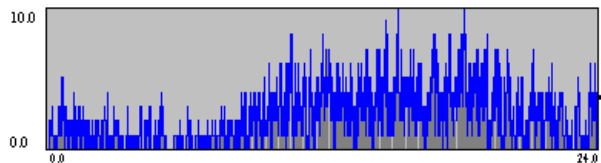


IOP #3: BORDER TRAFFIC FLOW CONTROL

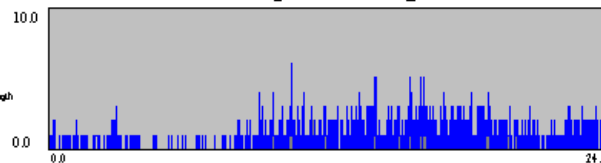
ARENA SIMULATION RUN FOR DETROIT-WINDSOR



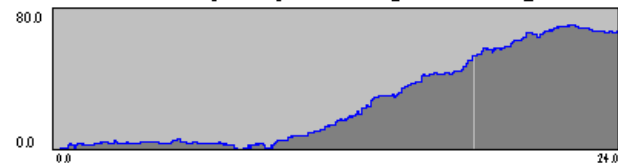
COV Queue Length



FAST Queue Length

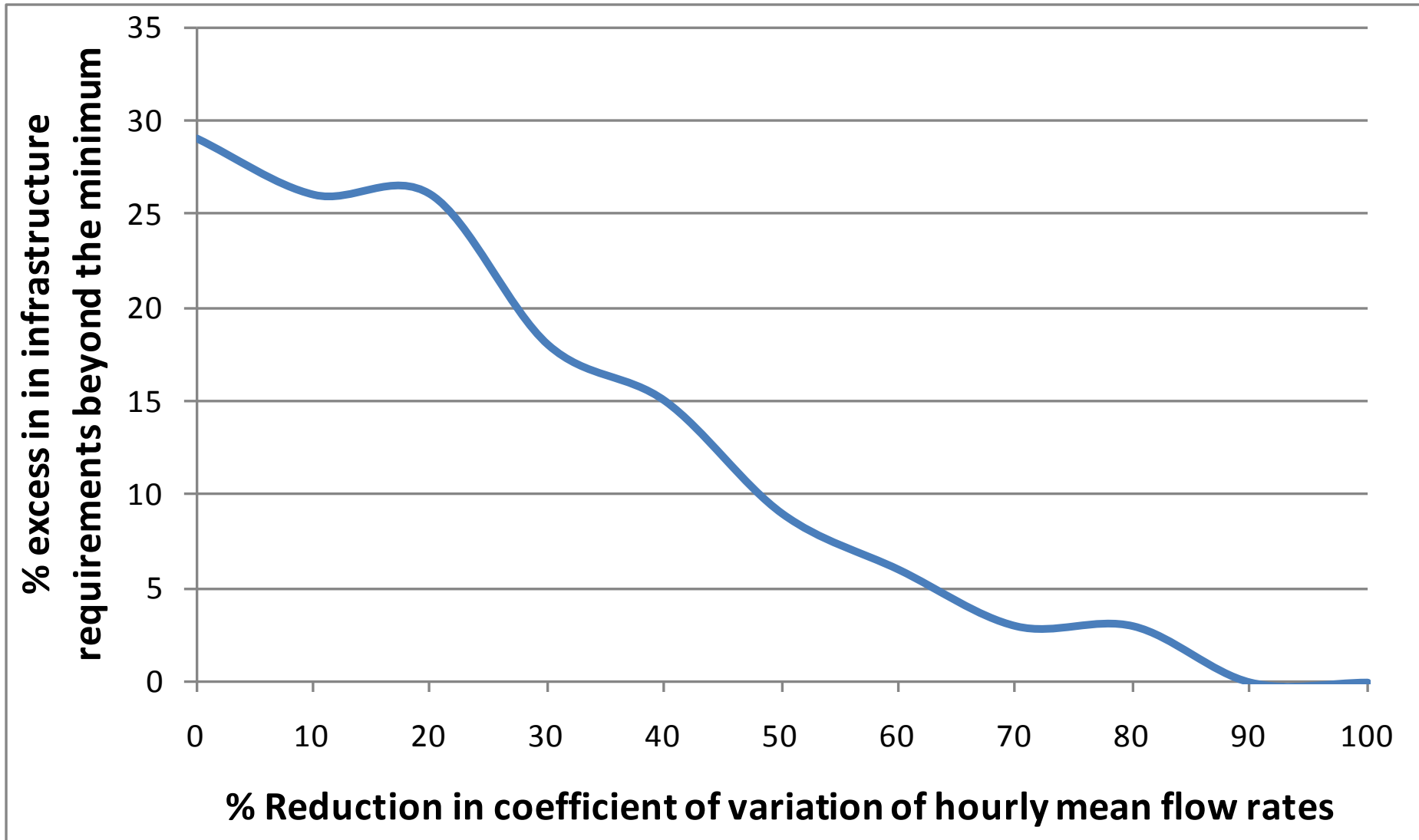


Secondary Inspection Queue Length



IOP #3: BORDER TRAFFIC FLOW CONTROL

OVERALL SIMULATION RESULTS



CORRIDOR RELEVANCE

- ✓ What is the status of corridor-focused inter-governmental partnership with respect to issues such as learning?
- ✓ To what extent are cost efficiencies prominent in deliberations concerning corridor infrastructure investments and PPP investment models
- ✓ What is the status of PPP and other inter-organizational partnerships on gateway logistics?

Thanks for Listening

Questions/Comments?

