



Youth Violence Systems Project

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Overview

Overview

In this session, we will seek to provide answers to four key questions about the Youth Violence Systems Project

- **Why?** Why engage in a project like YVSP?
- **What?** What is the project all about?
- **How?** How does the YVSP model work?
- **Where?** Where is the project now? Where is it headed?

Why engage in a project like YVSP?

Several macro-level reasons exist for engaging in this project

- Youth violence is pernicious problem facing many (most? all?) large US cities
- Homicide is the leading cause of death for black males aged 10-24
- This is an archetypical systems problem
- Using the traditional toolset, it's been difficult to unpack and understand the drivers of the dynamics of youth violence

Peterson's Characteristics of a Systems Problem

1. Dynamics—change over time
2. Multiple players, diverse interests
3. Driven by interdependencies
4. Very difficult to communicate!

A few micro-level reasons exist as well

- This is a problem that is chronically under-resourced
- It is a problem for which there is some potential to make a real difference in the world using systems tools
- Skills at “doing systems” are not widely distributed in the world → *If we don't help, who will?*

What is the YVSP?

Key partners in the effort:

- Emmanuel Gospel Center
- Black Ministerial Alliance of Greater Boston
- Boston TenPoint Coalition
- High Risk Youth Network
- United Way of Massachusetts Bay and Merrimack Valley

What is the YVSP?

Two Objectives:

- Improve understanding of community based violence in Boston
- Help communities strategize and achieve sustained reductions in violence

One overarching strategy:

- Engage “the community” in the development of a dynamic model of youth violence

Multiple Critical Tactics

- Do your homework (extensive literature review, neighborhood briefing documents, academic-community advisory board)
- Engage key stakeholders (45 in-depth interviews with community, academic, and public institution stakeholders; focus groups with gang experts, mental health experts, survivors of violence)
- Learn from the source (focus group sessions with current and former gang members)
- Keep the community in the loop (multiple project briefings with community residents, community-based agencies, and academic/institutional stakeholder)s
- Show the community that you respect them (incorporate their thinking into the model, facilitate community buy-in for the work)
- Anchor the model development effort in community-based design teams

Engage the community

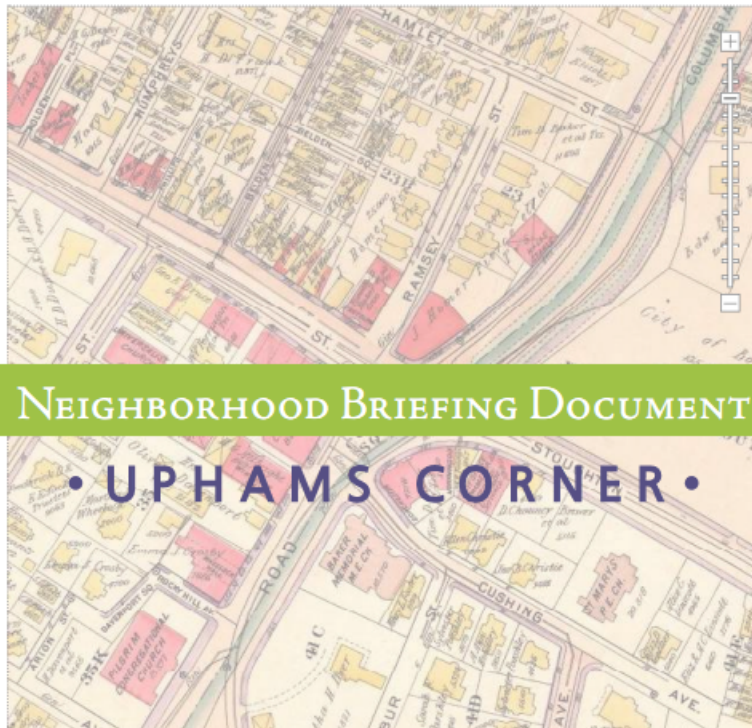
- Youth development perspective led us to value the input of youth in the community
 - Youth culture as a relatively closed subculture
 - Youth cognitive development impacting decision making and compromising “rational behavior” models
 - Youth also closest to perpetrators of violence – typically young, black, gang-involved males
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Engage the community

- Gang members were engaged as consultants and partners in developing a model and solution
 - They revealed a very closed subculture with very different behavioral norms and sets of motivations
 - Produced the valuable “missing links” to dynamic system behavior
 - Retaliation cycles
 - Police Response
 - Recruitment and Exit from gangs
-

Neighborhood Briefing Document...

YOUTH VIOLENCE SYSTEMS PROJECT



The Youth Violence Systems Project seeks to create a dynamic, working computer model which reflects reality, has predictive and analytical value, and incorporates input from the community to model the violent behavior of youth in Boston.

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A few words about the design process

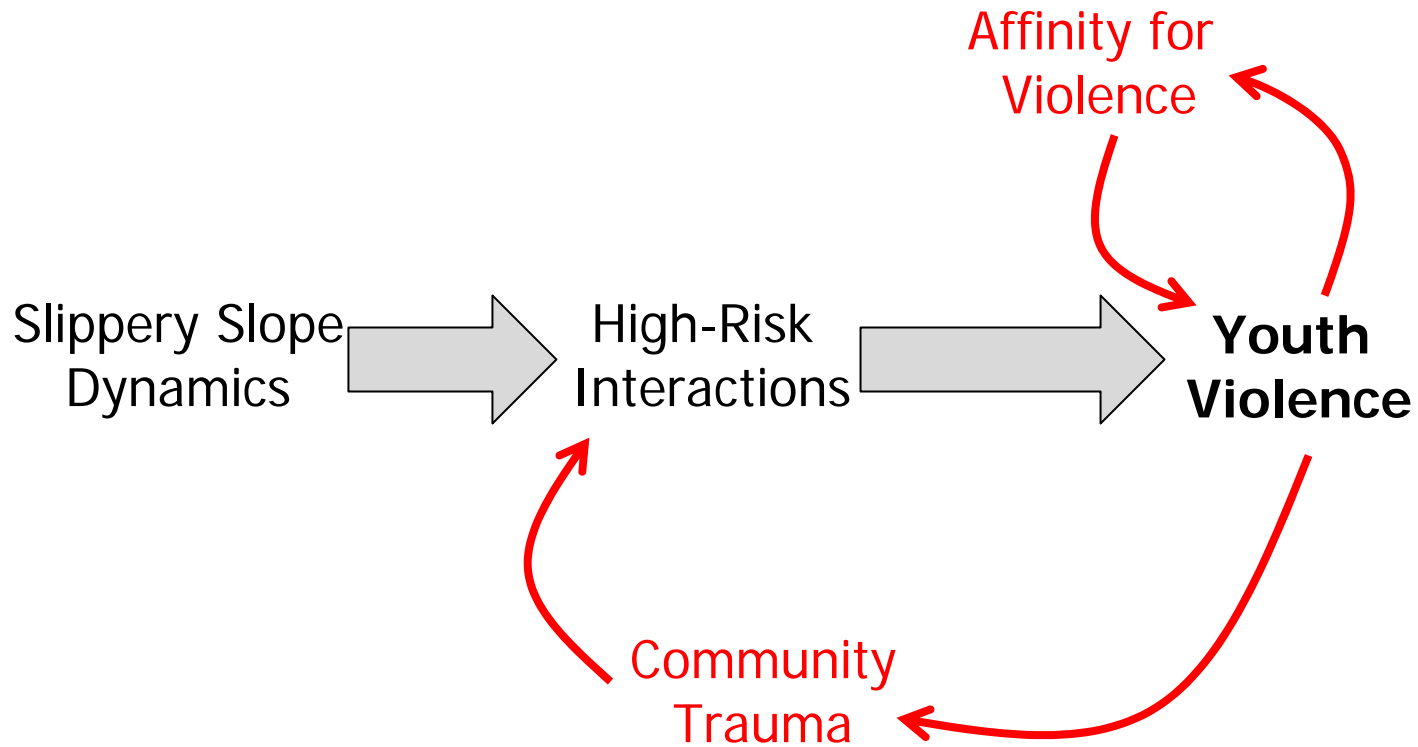
- Extremely high level of community involvement—Bird Street Gym
- High level of participation among youth and adults
- Design team authority to shape/accept/reject modeler's work
- Frequent “detours from design meetings” to deal with real issues

How does the YVSP model work?

- The YVSP model is a dynamic simulation model constructed using the system dynamics framework
- Creation of a formal model using system dynamics enables us to address aspects of the real world that would otherwise be inaccessible:
 - Movement of youth along the “slippery slope” toward violence
 - Nonlinearities that result from high concentration of loosely-organized gangs within neighborhoods
 - Potential strengths of positive feedbacks around community trauma and affinity for violence
- Additionally, an explicit computer simulation model provides community members with a vehicle for conducting controlled experiments around policies and proposed initiatives
- In doing so, the model creates a “space” for focused discussion and for community learning

How does the YVSP model work?

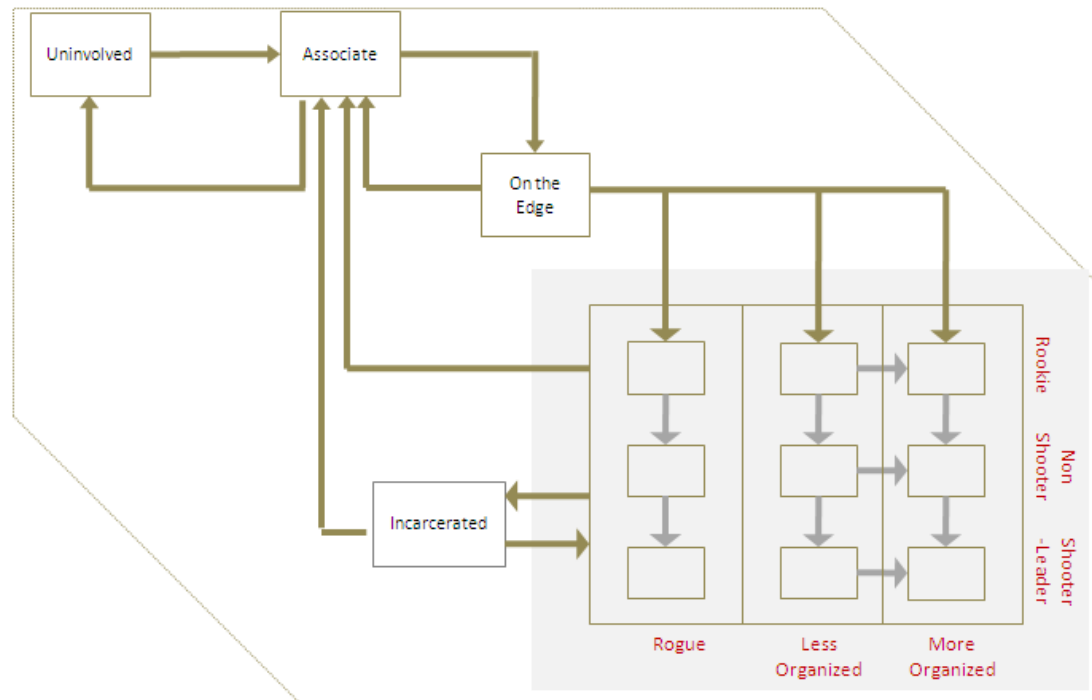
An overview of key model structures



How does the YVSP model work?

Slippery Slope Dynamics

- Slippery slope dynamics capture the drift over time of youth within a defined community toward gang involvement.
- The model structure (developed and vetted with community members) categories youth (middle school, high school, young adults) as they move along the slippery slope
- At any point in time, a community can be characterized by the distribution of its youth along the different stocks in the slippery slope



Gangs in Boston, ~ late 1990s



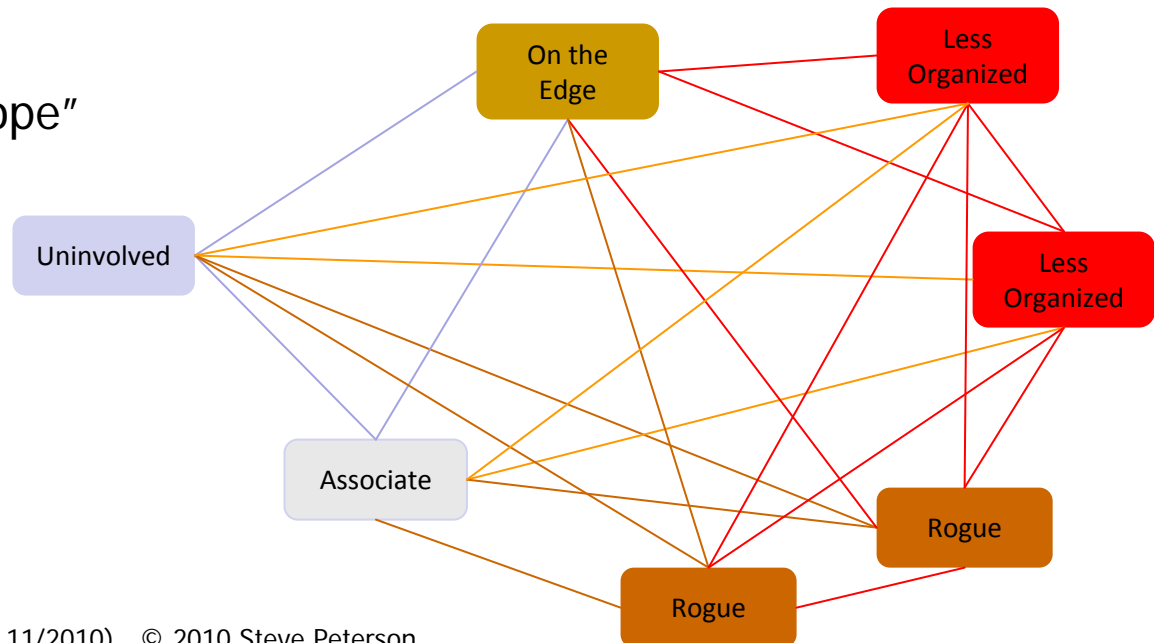
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How does the YVSP model work?

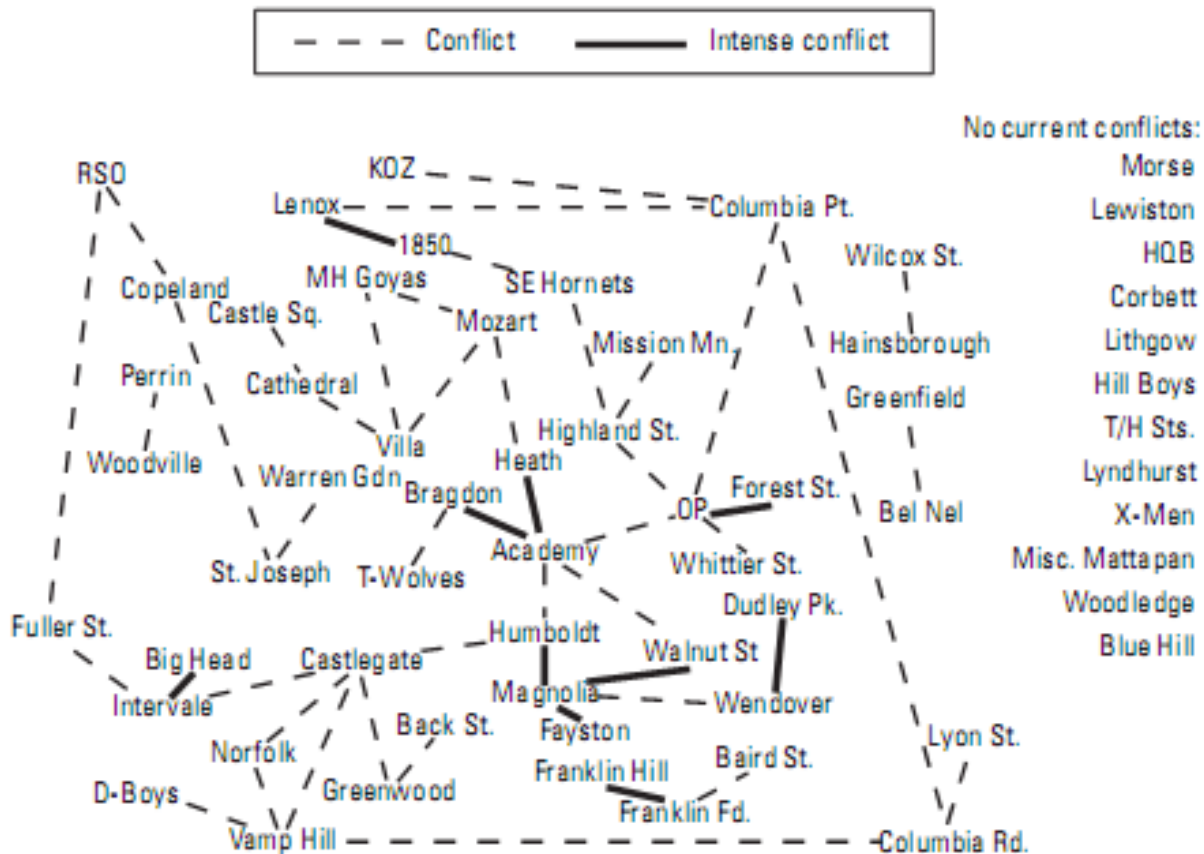
High Risk Interactions

- The model draws from network theory to create a physical, operational, and endogenous perspective on the relationship between slippery slope dynamics and youth violence
- Within each pool of youth, sub-groups define *network nodes*
- *Connections* exist between each node in the resultant network
- The further down the slippery slope, the greater the flux over time of *high risk interactions* along the connection
- The emergent network is the physical basis for production of violence in the model

Illustrative “Slippery Slope” Network



Gang Conflict Networks in Boston, late 1990s

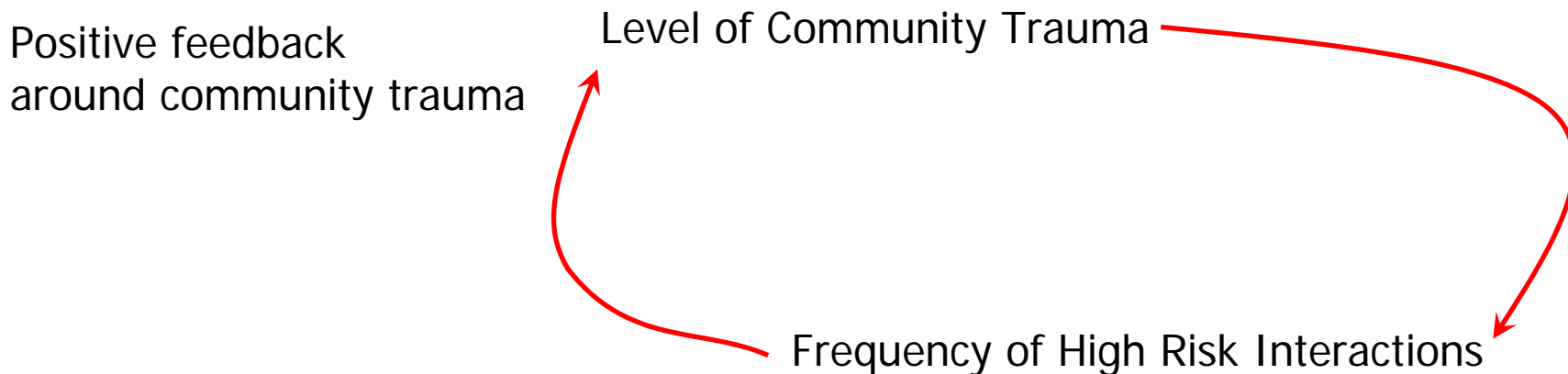


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How does the YVSP model work?

Turbocharging High Risk Interactions—Community Trauma

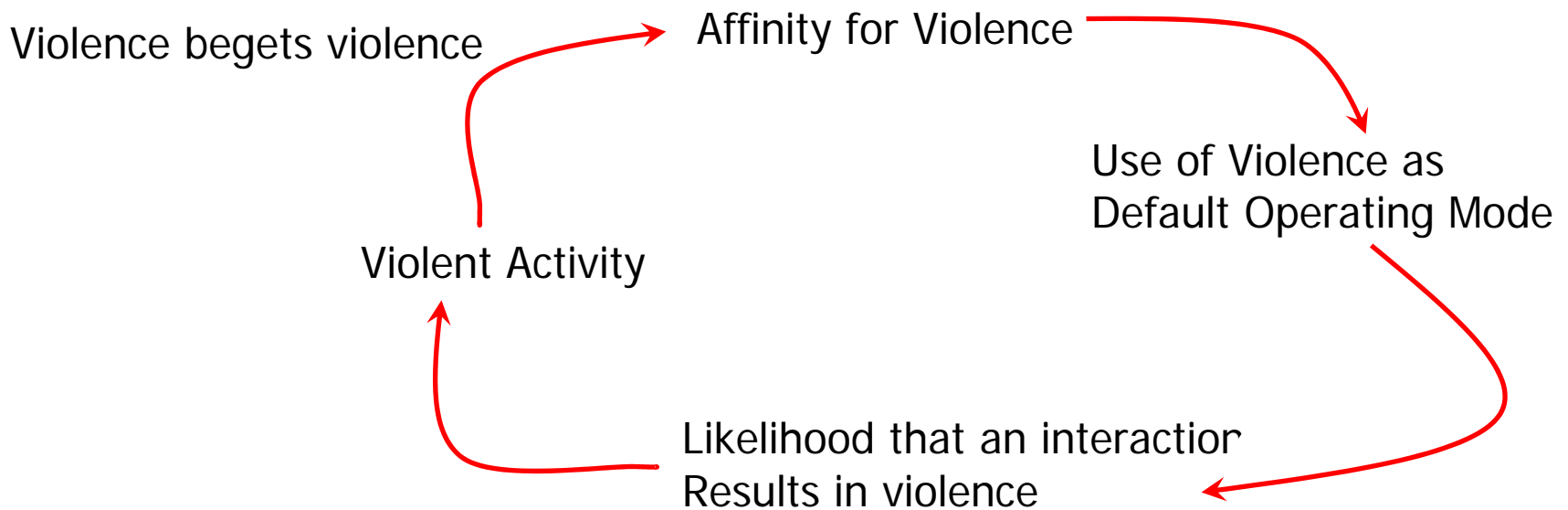
- In our work, we discovered that many high-violence communities tend to exhibit high degrees of PTSD-like symptoms
- One critical symptom: High levels of arousal, increasing the frequency of high-risk interactions
- The resultant positive feedback tends to keep a community in a high-violence state



How does the YVSP model work?

Affinity for Violence

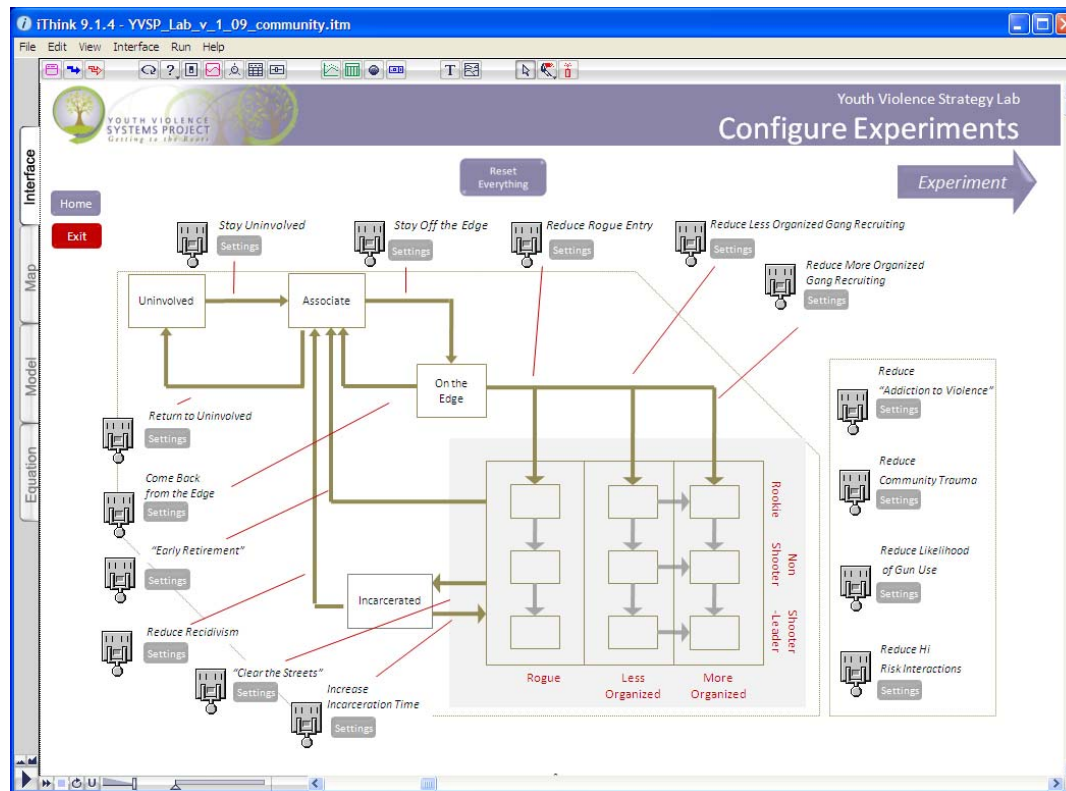
- Concept: Violence begets violence.
- More precisely, the more one engages in violence, the more violence becomes the “default” operating mode.
- Approach: build affinity for violence as individuals engage in violence (requires stock/flow structure)
- Affinity for violence then feeds back to impact probability that a high-risk interaction will lead to violence



How does the YVSP model work?

Interacting with the model

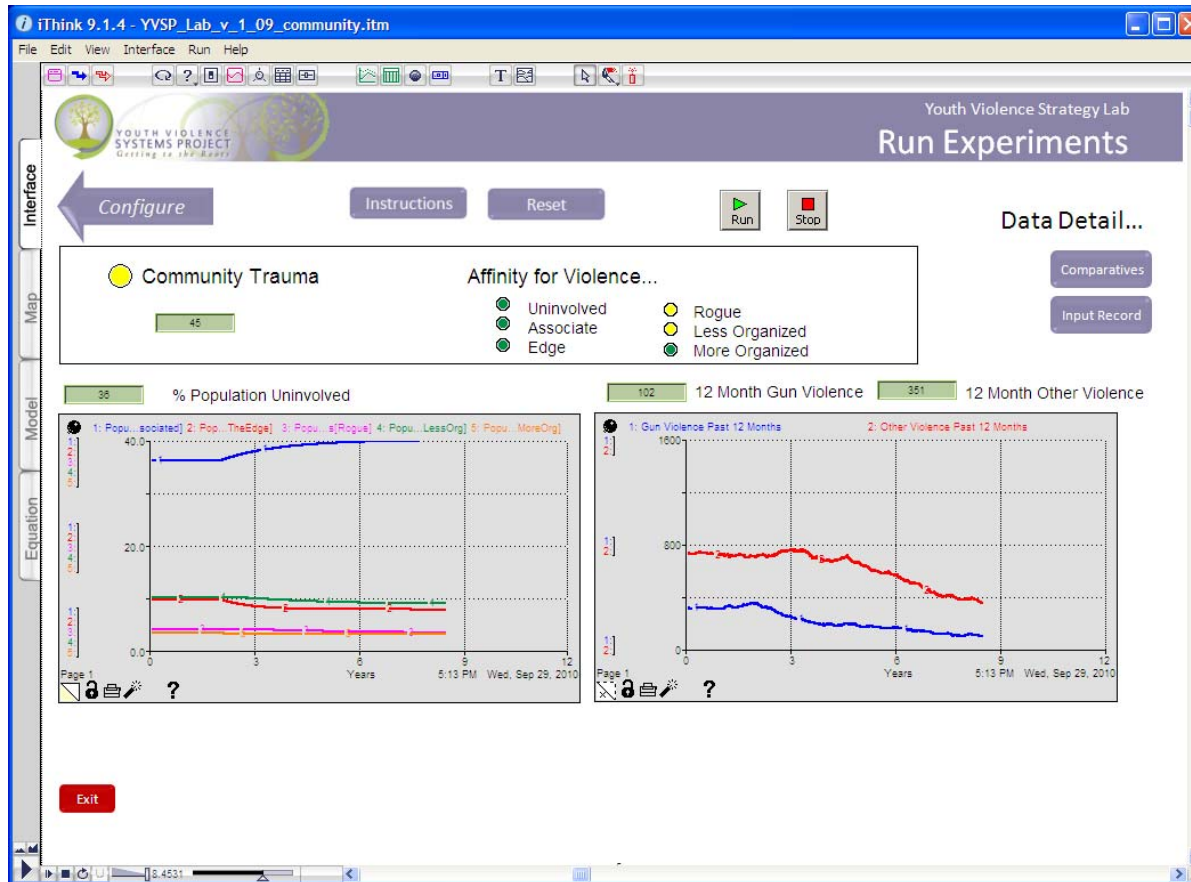
- The model is set up to facilitate community interaction
- “Settings” buttons facilitate detailed experimental settings



How does the YVSP model work?

Interacting with the model

- Model results are displayed through graphs, tables, etc



Model Usage Matrix

	Community	Agency	Policy Maker	Academic Community	Gang Members
Use	<ul style="list-style-type: none"> • Evaluate interventions proposed by others • Evaluate interventions proposed by the community 	<ul style="list-style-type: none"> • Evaluate agency interventions • Evaluate policies • Communicate program effectiveness 	<ul style="list-style-type: none"> • Evaluate historic policy impact • Predict future policy impact 	<ul style="list-style-type: none"> • Evaluate historic intervention outcomes and impact • Predict future intervention outcomes and impact 	<ul style="list-style-type: none"> • Evaluate how changes in their behavior impact the system
Outcomes	<ul style="list-style-type: none"> • Better informed community • Better community interventions 	<ul style="list-style-type: none"> • Better agency interventions • Better agency communication 	<ul style="list-style-type: none"> • Better policies • Develop better system-wide intervention strategies 	<ul style="list-style-type: none"> • Better intervention analysis • Develop better system-wide intervention strategies 	<ul style="list-style-type: none"> • More engagement of gang members in intervention development

Where is the project now? Recent and Current Activities

- Building community ownership/usage with the model (see next pages)
- Looping back to original players
 - Presenting model
 - Eliciting feedback
 - Cementing initial buy-in
- Getting a 1-year commitment from key agencies in target communities
 - Learning team/learning center approach
- Facilitating and coaching
- Planning community forums

Uphams Corner Design Team Members work with the model



From model users, over five weeks of interaction with model

- “I can look at problems from different vantage points; what I think might be good might be harmful to someone else in the community...” (week 1)
- “Whatever you do will come back as a consequence...” (week 2)
- “If you can stick to one solution (intervention) it may work for a while, but then it stops and things get worse!” (week 3—working with model now)
- “I thought that gun violence would come down more; maybe interventions work better when you use more than one...” (week 3)
- “I liked doing predictions first, then running the intervention, then comparing with what I thought might happen. ‘Starve the Beast’ surprised me BAD!” (week 4)

From model users, over five weeks of interaction with model

Week 5--designing own interventions, each playing a certain “person role”

- “Mr CEO – It was sad that I was just making a lot of money; I need to invest in some small companies here, hire a lot of youth, partner with J’s community center, and reduce community trauma..”
- “single mother with five teens – Got my 2 sons to stay in school this year, stay away from ‘Associates’, because the community organizer organized us parents and taught us how to talk with teachers; I tried ‘Stay off the Edge’ and ‘Come Back from the Edge’ with my neighbors and my kids, and gun violence went down after 2 years. I do need everyone’s (other roles) help!”

Where is the project headed?

- Broaden the base of community involvement
 - Provide intensive training and support to 50 community agencies
 - Convene two community user-conferences to discuss model feedback, usability recommendations, and how to revise and improve the model
 - Train 200 youth workers all over the city to understand and use the model as they work with youth

- Improve the “ground truth” data
 - Work with the High Risk Youth Network to qualify youth workers to serve as certified data providers in the neighborhoods, to update and refine the model

Where is the project headed?

- Engage the academics
 - Journal articles in process
 - Convene an academic forum at Northeastern University to explore the public health and criminology/sociology implications of the model, and discuss underlying logic and merits of the Model
- Engage institutions and policy makers through training and policy analysis
- Revise model as we learn
- Adapt model for use in other urban areas

Wrap-up observations

- Community members take to this stuff—the systems approach “feels real”
- There is a strong intuition in the community for interdependencies—but perhaps not a language to make sense of “how it works.” “Everything is connected to everything else—but what do I do about it?”
- This stuff (stocks and flows, feedback, strategy lab) provides a language for sense-making.