




# Road Rage

Countering Vehicular Weaponization  
Through Urban Design Strategies



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## Guns, Guards, Gates

Defensible Space (Newman, 1972)


Target “hardening”

Lack of coordination between overlapping  
units of governments



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# CPTED

CPTED - Crime Prevention Through  
Environmental Design

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# Fortress Cities

Urban streetscapes are “texts that can be  
read” Coaffee (2009)

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## Guns, Guards, Gates

We may try to communicate that people are safe in a particular built environment, but those safety features may cause fear and anxiety

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## Homeland Security

FEMA guidelines (2007) for security design:

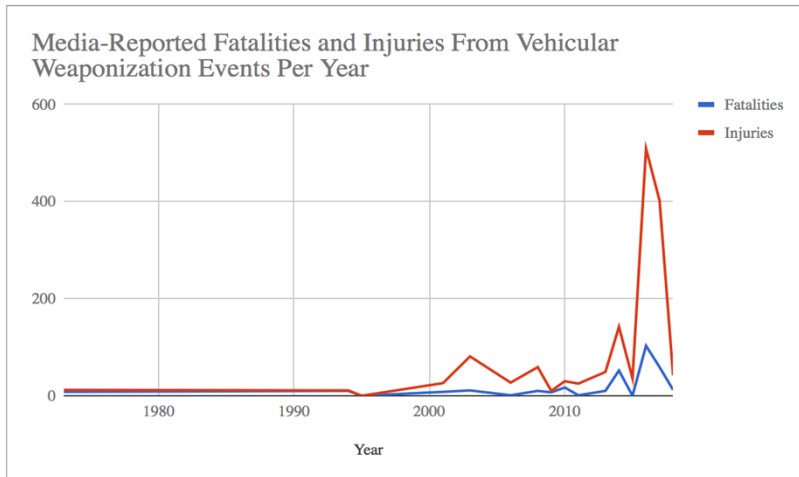
- 1). Balance security for sensitive locations with vitality
- 2). Provide security through streetscape enhancements
- 3). Expand elements that provide security (rather than endless jersey barriers and bollardization)
- 4). Priority should be given to aesthetic continuity along streets
- 5). Provide security while not impeding commerce, vitality, pedestrianism, mobility, or greenspace

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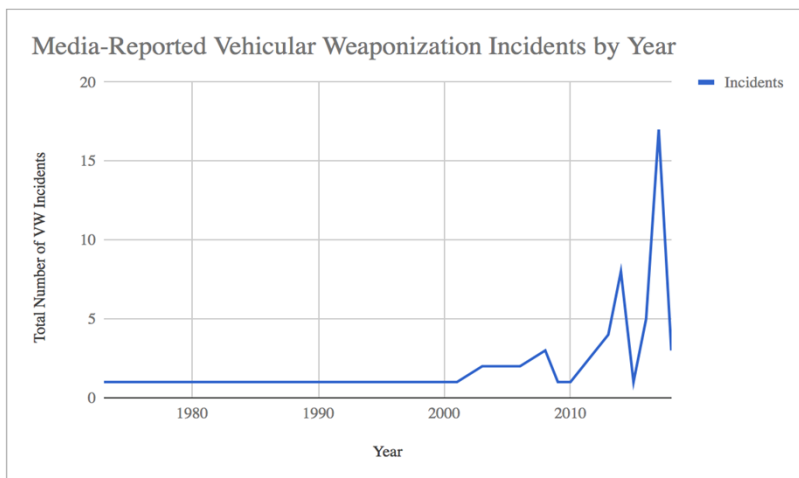
## Vehicular Weaponization



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## Vehicular Weaponization



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## Vehicular Weaponization

*Rumiyah Magazine* called for sympathizers to “mow down the enemies of Allah”

Not always related to terrorism

Toronto - 2018 - 10 dead, 16 injured  
London - 2017 - 8 dead, 48 injured  
London - 2017 - 5 dead, 50 injured  
Barcelona - 2017 - 16 dead, 152 injured  
Stockholm - 2017 - 5 dead, 14 injured  
Berlin - 2016 - 12 dead, 56 injured  
Columbus, OH - 2016 - 13 injured  
Nice, France - 2016 - 86 dead, 458 injured  
Las Vegas - 2015 - 1 dead, 37 injured  
Stillwater, OK - 2015 - 4 dead, 36+ injured  
Xinjiang, China - 2014 - 39 dead, 90+ injured  
Santa Monica, CA - 2003 - 10 dead, 63 injured



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## Where We Are



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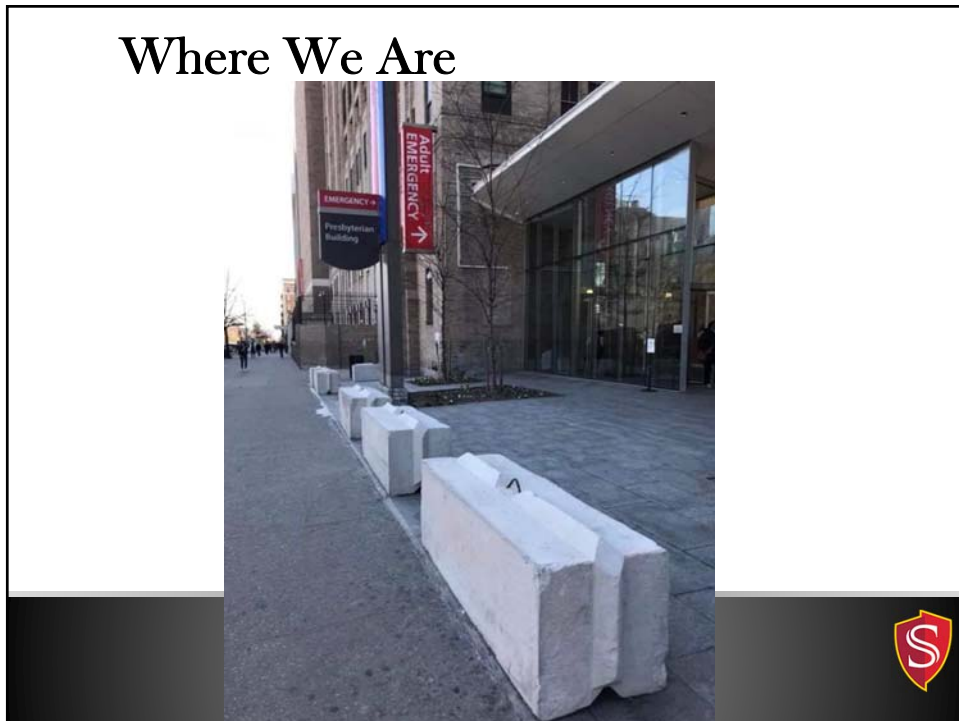


# Where We Are





## Where We Are





## Methodology

We employed qualitative research methodology with semi-structured interviews to answer:

What do transportation administrators say they are doing to respond to the threat of vehicular weaponization?

- 1). What strategies are transportation administrators utilizing to mitigate vehicular weaponization?
- 2). What do transportation administrators say they do to balance walkability, bikeability, and livability with vehicular weaponization mitigation strategies?

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## Findings

### Key themes

- 1). FEMA VW guidelines are not operationalized in local transportation planning
- 2). Planning for VW is event-specific, not infrastructural
- 3). VW is “someone else’s” problem / It’s not a transportation problem

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## Findings

- 1). FEMA VW guidelines are not operationalized in local transportation planning

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## FEMA Guidelines Not Operationalized

“I would put [vehicular weaponization] pretty far down the list of important issues to talk about when trying to activate a public space.”

San Francisco

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## FEMA Guidelines Not Operationalized

“Improperly-placed bollards...that are more of a nuisance because you have to dismount and walk”

Las Vegas

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## FEMA Guidelines Not Operationalized

“Some of the jersey barriers have been made permanent.... [They’ve] been there for more than a decade.... I guess the problem is when people are asking [about safety where people congregate] and we say, ‘I have no idea. We have 1,100 miles of streets.’” Washington, D.C.

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## Findings

2). Planning for VW is event-specific, not infrastructural

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## Planning for VW is Event-Specific

“If there is a demonstration or rally on the Mall...they had military vehicles at the entrances...big trucks in Desert Storm tan”  
Washington, D.C.

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## Planning for VW is Event-Specific

“I think [the responsibility] is in events management.... Usually we just park a trash truck in the middle of it.... We do think a lot about of VW in terms of events but not infrastructure.” Philadelphia

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## Planning for VW is Event-Specific

At farmers markets and events “usually you just officers at the main entrance points and barricades” Dallas

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## Findings

3). VW is “someone else’s” problem / It’s not a transportation problem

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## VW is Someone Else's Problem

“We are giving buildings and places the ability to do their own protection...if they want to pay for it and build it themselves, there's nothing stopping them from doing that. But the stuff that we're doing as a city is really being directed by our counterterrorism folks.” New York

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## VW is Someone Else's Problem

Las Vegas rapid transit moved bus stops back from arterials. Bollards are placed by the hotels

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## VW is Someone Else's Problem

Dallas cited VW being the responsibility of private entities' construction design and planning

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## VW is Someone Else's Problem

“It is not part of the conversation with the Portland Bureau of Transportation, possibly it is part of the conversation with Portland Police Bureau.” Portland

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## VW is Someone Else's Problem

“That’s not what we as a transportation agency look at. We would rely more on agencies that are focused on security and enforcement and thinking about those kinds of risks. We focus more on the risks that ordinary people every month are getting hit and killed by cars in Portland.” Portland

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## VW is Someone Else's Problem

Interviewees are cautious about the role of the federal government

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## Differences in Approach

Cities that experienced attacks (New York, Santa Monica, and Las Vegas) approach the topic differently

Their approaches don't necessarily align with FEMA's recommendations

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## Differences in Approach

New York, Santa Monica, and Las Vegas have taken direct action and developed specific measures to mitigate the threat of vehicular weaponization

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## Differences in Approach

All interviewees in selected cities recognize the importance of urban livability

Interviewees in non-affected cities say they *can't* focus on VW mitigation to protect urban livability; interviewees in affected cities say they *must* focus on mitigation to protect urban livability

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## Differences in Approach

“One of our biggest challenges is how to do this in a way that still makes it feel like a public space people want to be in; that makes it permeable so that nobody feels like they’re stuck in a spot, and so they can move about.... That’s a thing we’re doing a lot of talking about as we move toward permanent fixtures - ‘how does this really blend into the surroundings and not make you feel like you are in a security state?’” New York City

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## Differences in Approach

“I do know that additional safety measures were taken such as adding permanent bollards and creating additional buffer space between where the road was closed and where the activity was taking place. So in essence, providing a gap so that if an incident did occur, it would minimize the loss of life.... I don't think anyone thought that would happen before, but after it did happen, we're being more cautious...” Santa Monica

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## Recommendations

1. VW is a transportation problem
2. Be careful with target hardening
3. VW is also a global problem. Efficacious responses require collaboration

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## Collaborate!

Local decision-making with multi- and intra-jurisdictional collaboration is important

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## Collaborate!

Instead of this...



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## Where We Are

Or this...



## Collaborate!

Aim for this...



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Collaborate!

Or this...



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Collaborate!

“I’m not that worried about Minneapolis or St. Paul or some of the other metro areas, but I’m in Hattiesburg, Mississippi right now...and they gather people in large numbers too. High density of people. It’s a ripe crowd for vehicle attacks.” Minneapolis

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