RISKY PLACES
for crime – seminar series 2021

Are shopping centers risky places?

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Suggestion for reference:

Ceccato, V. (2016). Are shopping centers risky places?.
Paper presented in the webinar series “Risky places for crime”,
Safeplaces network-Nottingham Trent university, 2nd September 2021.

‘Going shopping’ is perceived to be an activity filled with great pleasure (Bamfield, 2012)

Shopping centers

More than shopping

Shopping centers have evolved from a group of stores to large enclosed malls with an eclectic number of services and functions, including sports, culture and entertainment

The challenge for shopping malls is to create an environment that is at the same time entertaining and safe (Kajalo & Lindblom, 2016)

Aim & objectives

Aim

we propose a conceptual model to study crime in shopping centers

We first discuss the nature of crime in a shopping centre in Stockholm, Sweden using data recorded by the security companies and three-dimensional visualization using BIM (Building information modelling) to detect areas that run higher risk of crime

Objectives

1. to create a BIM model that allows crime mapping and three-D visualisation

2. to detect areas that run higher risk of crime (types of crime/time) using BIM

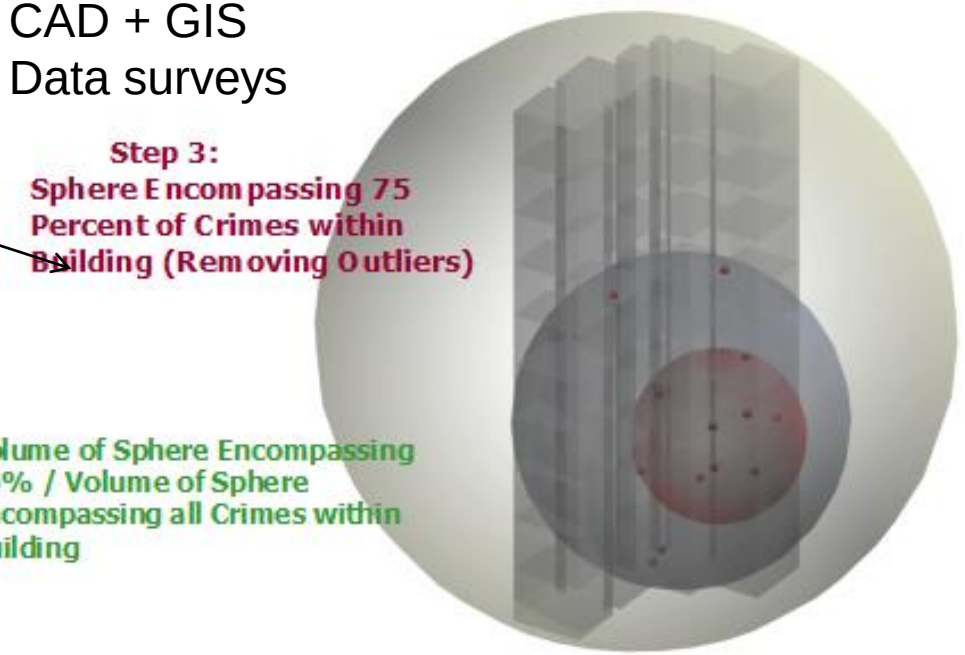
3. to assess places in the shopping centre that are in most need of intervention through fieldwork inspection and CPTED principles

Previous work

1) **Rengert et al. (2000) +**

Rengert, G & Ratcliffe, J. (2000/5) Inmate Violence Against Correctional Staff: An Environmental Analysis of Risk.

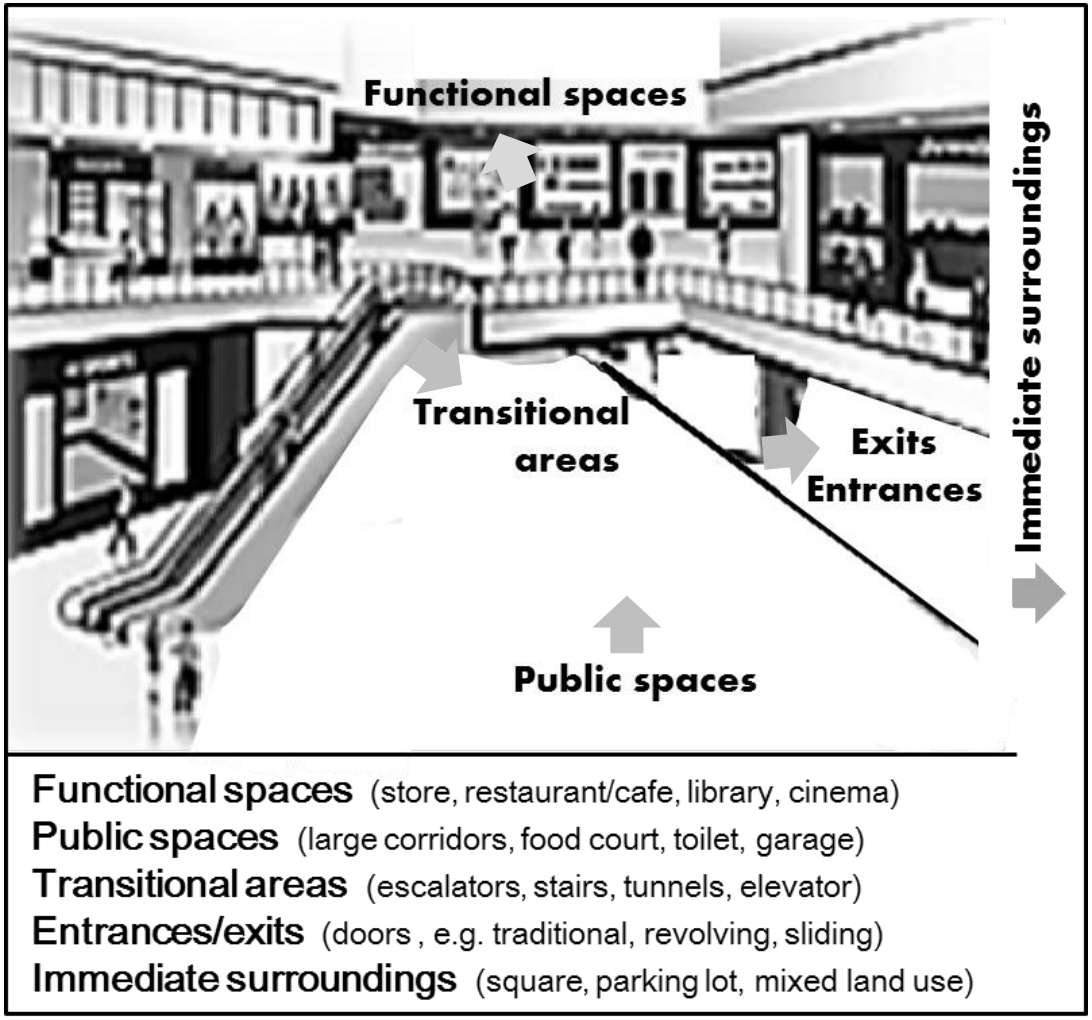
CAD + GIS
Data surveys

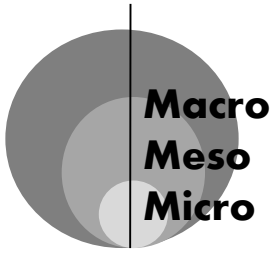


Important references: Brantingham & Brantingham (1995), Cohen and Felson (1979), Risky facilities (Clarke and Eck, 2007), Weisburd (2015); Bowers (2014)

The conceptual model

Spaces that are *criminologically relevant* to & perceived safety in shopping centres





Scale of analysis

Ceccato (2016)

The conceptual model

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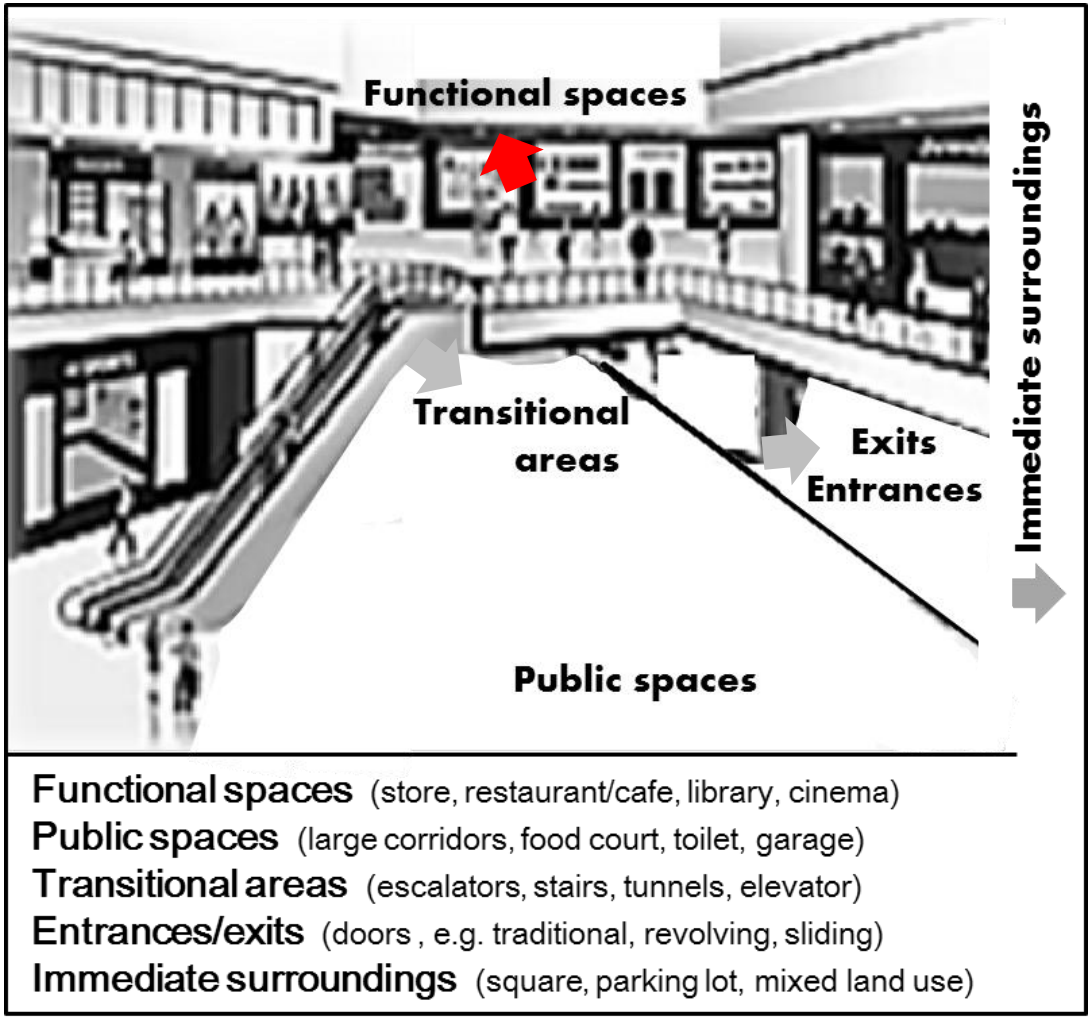

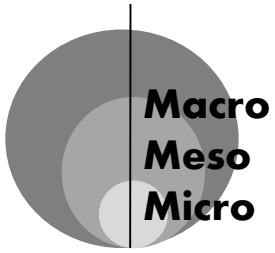

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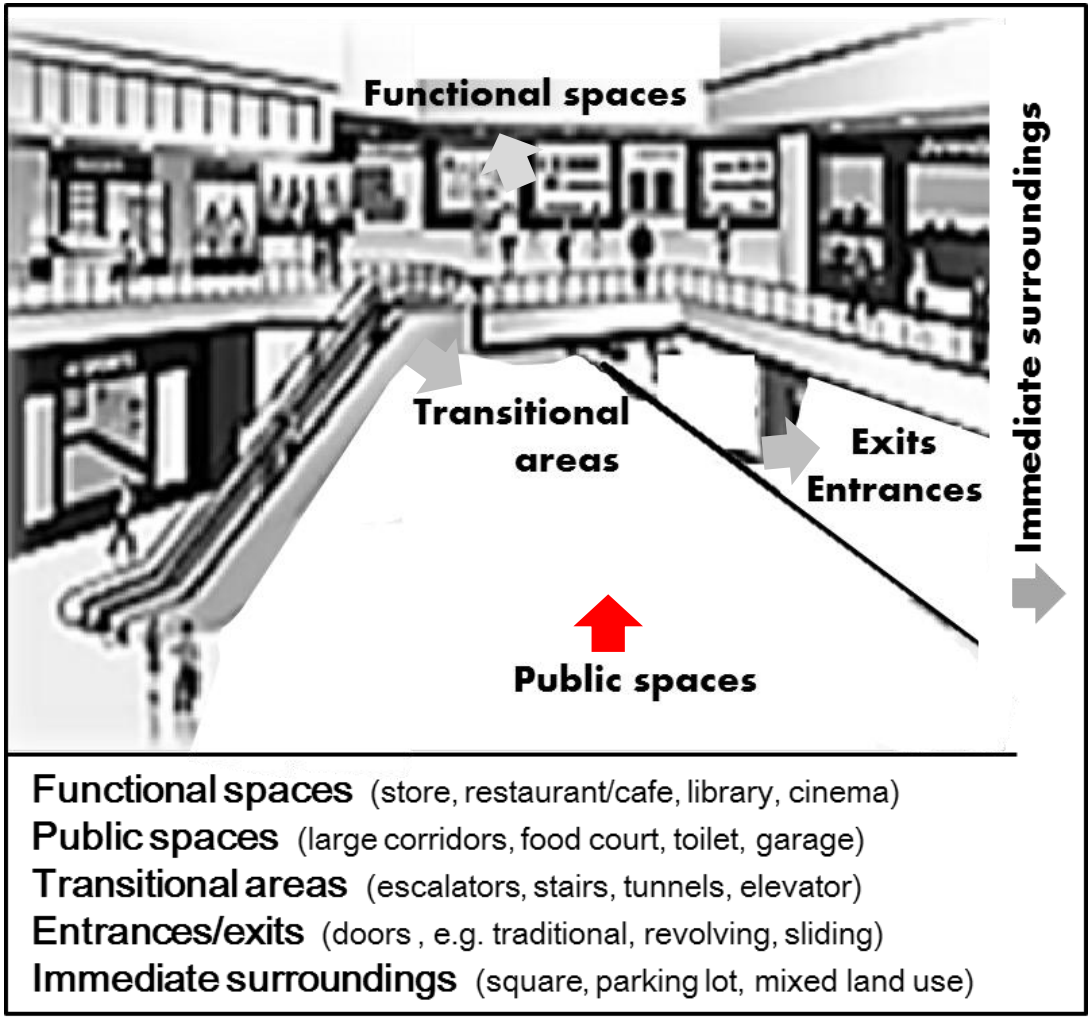

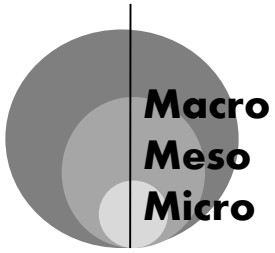

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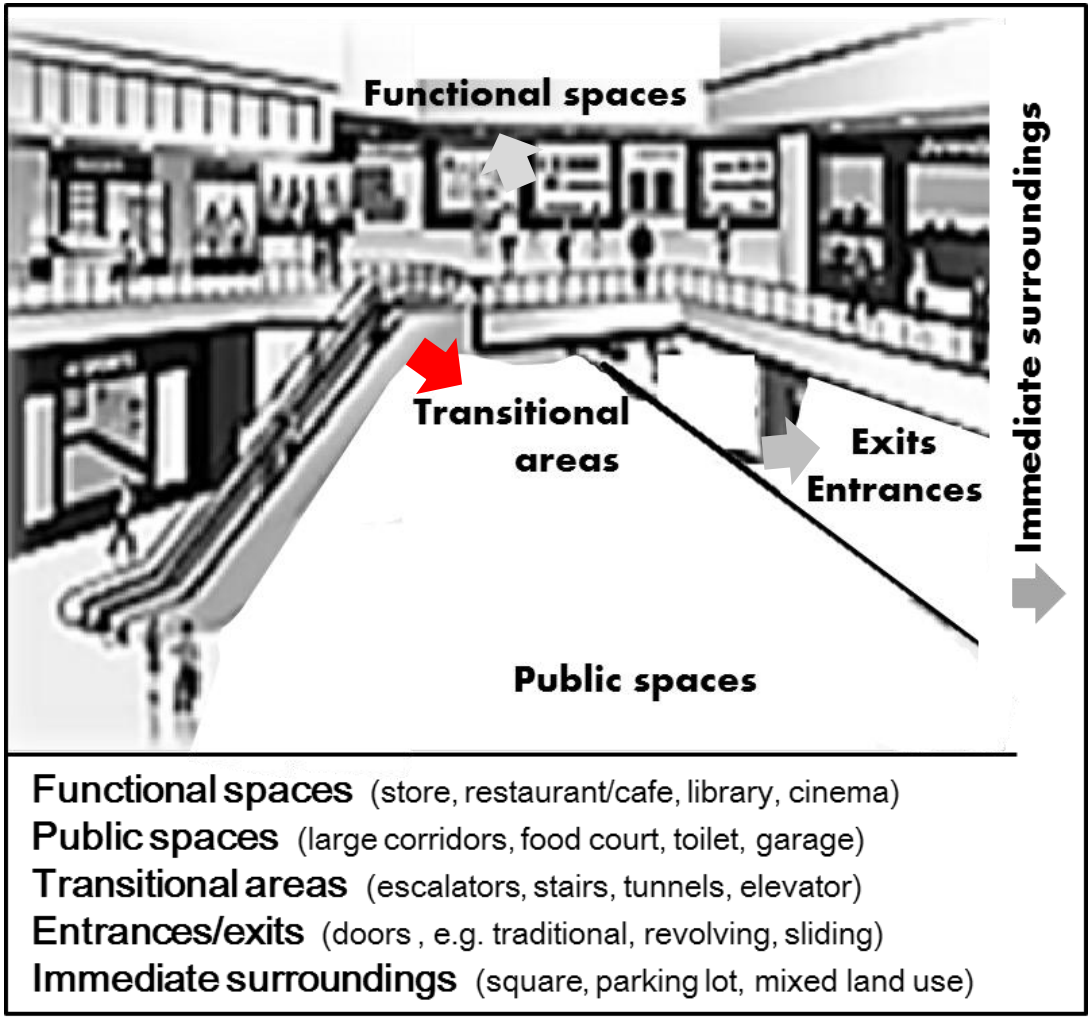

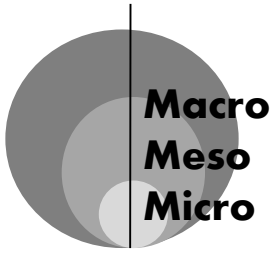

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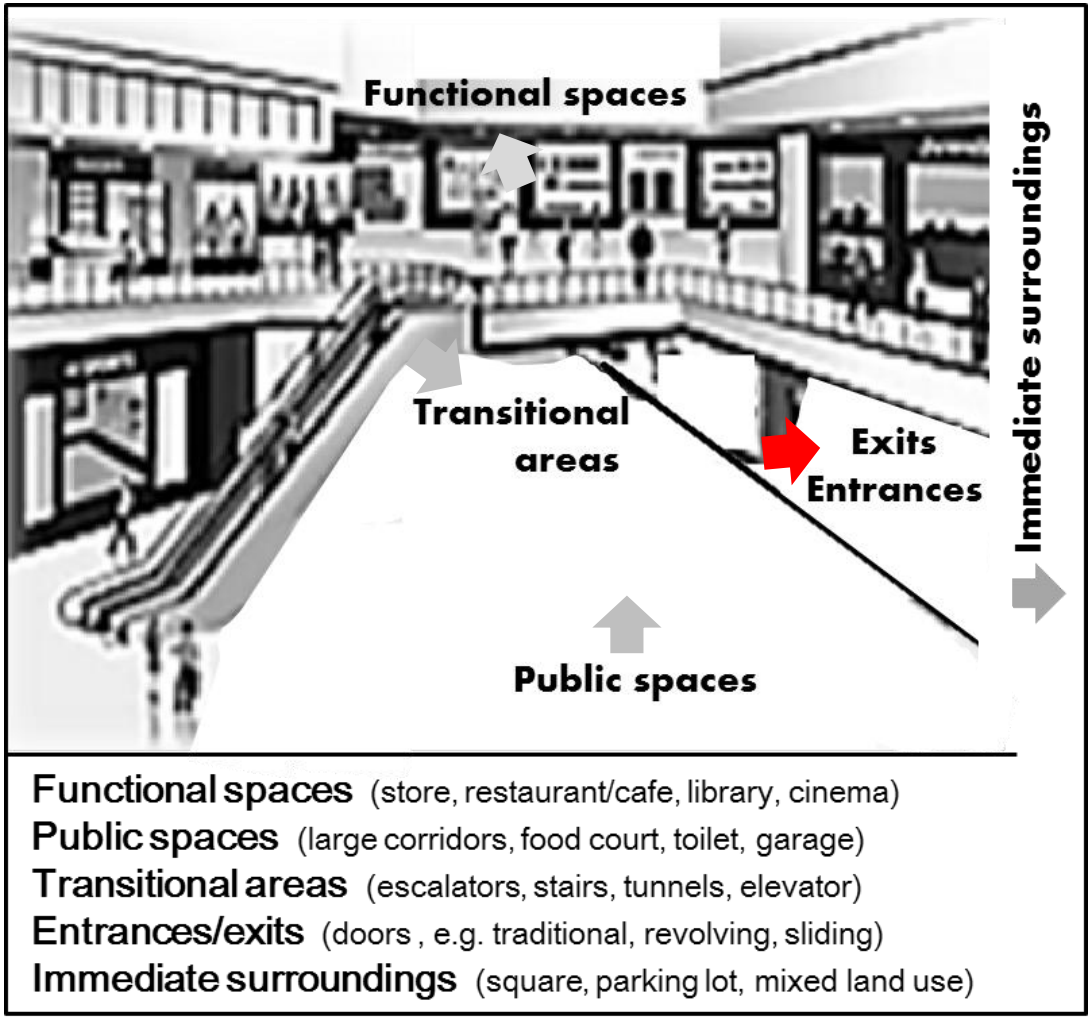

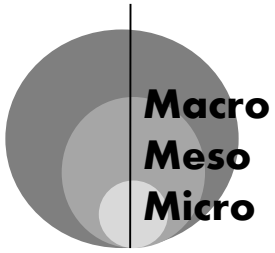

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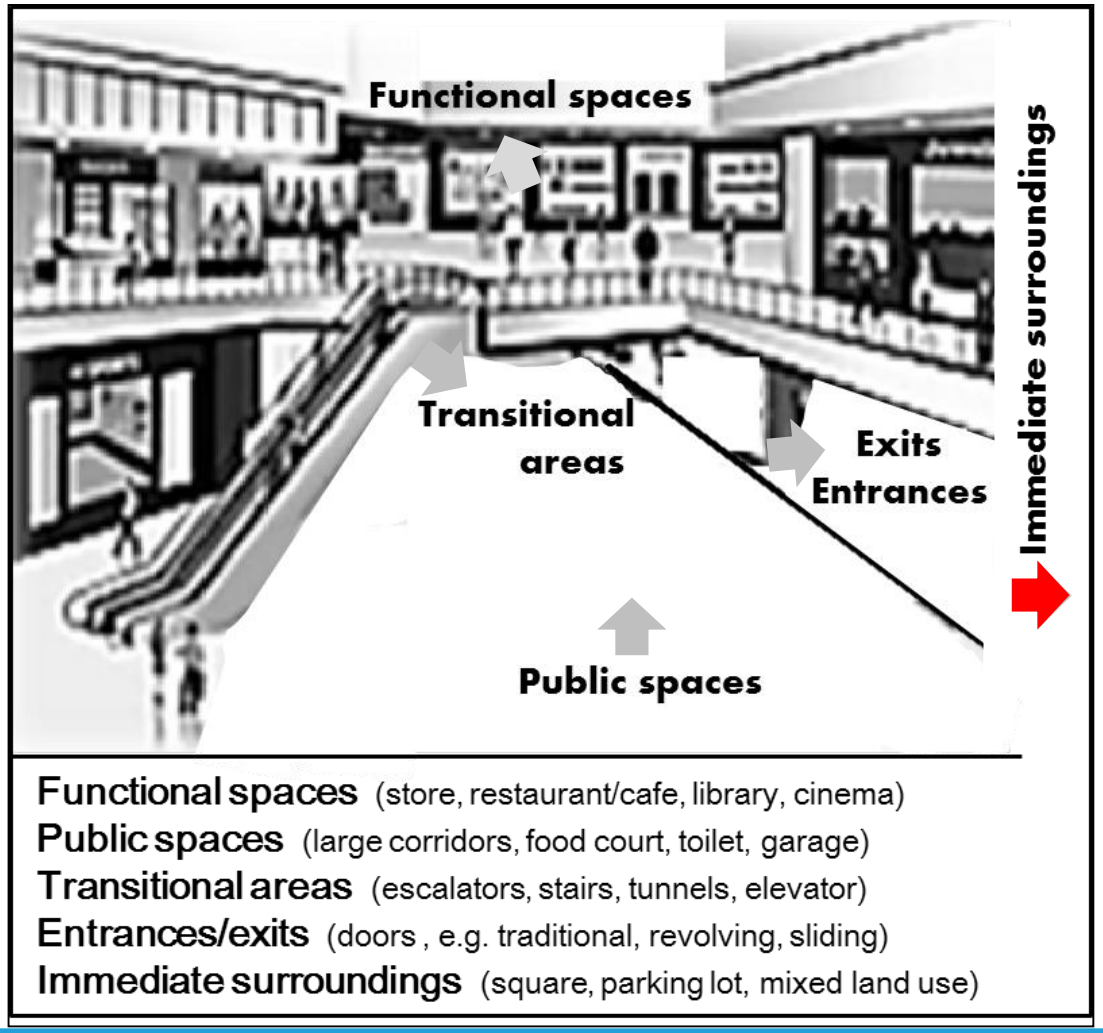

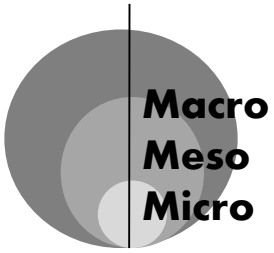

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The conceptual model

Spaces that are *criminologically relevant* to crime & perceived safety in shopping centres

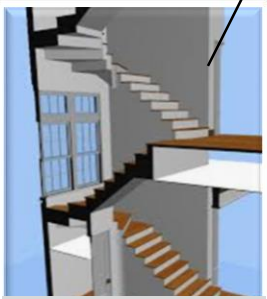
1. ***Functional spaces***

A store

2. ***Public spaces***

Food court

3. ***Transitional areas***



Stairs

4. ***Entrances/exists***

Revolving exits

5. ***Immediate surroundings***

Transportation hub

Method & data

Our approach:

Visualisation of crime records on

BIM – Building Information Modelling

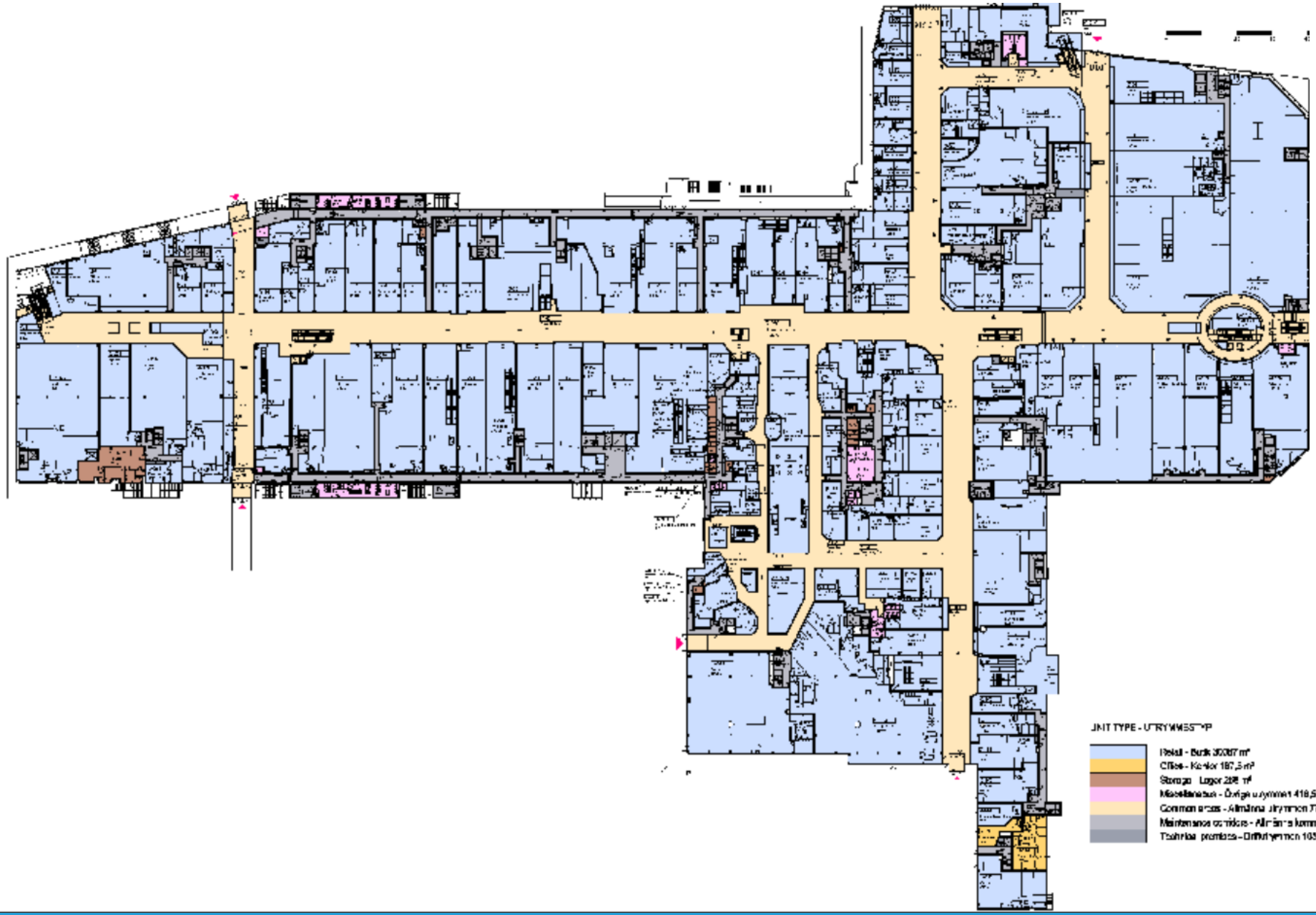
&

Crime Prevention Through Environmental Design

Data: 17 months of records from security company in the Shopping center, in a total of 5780 records

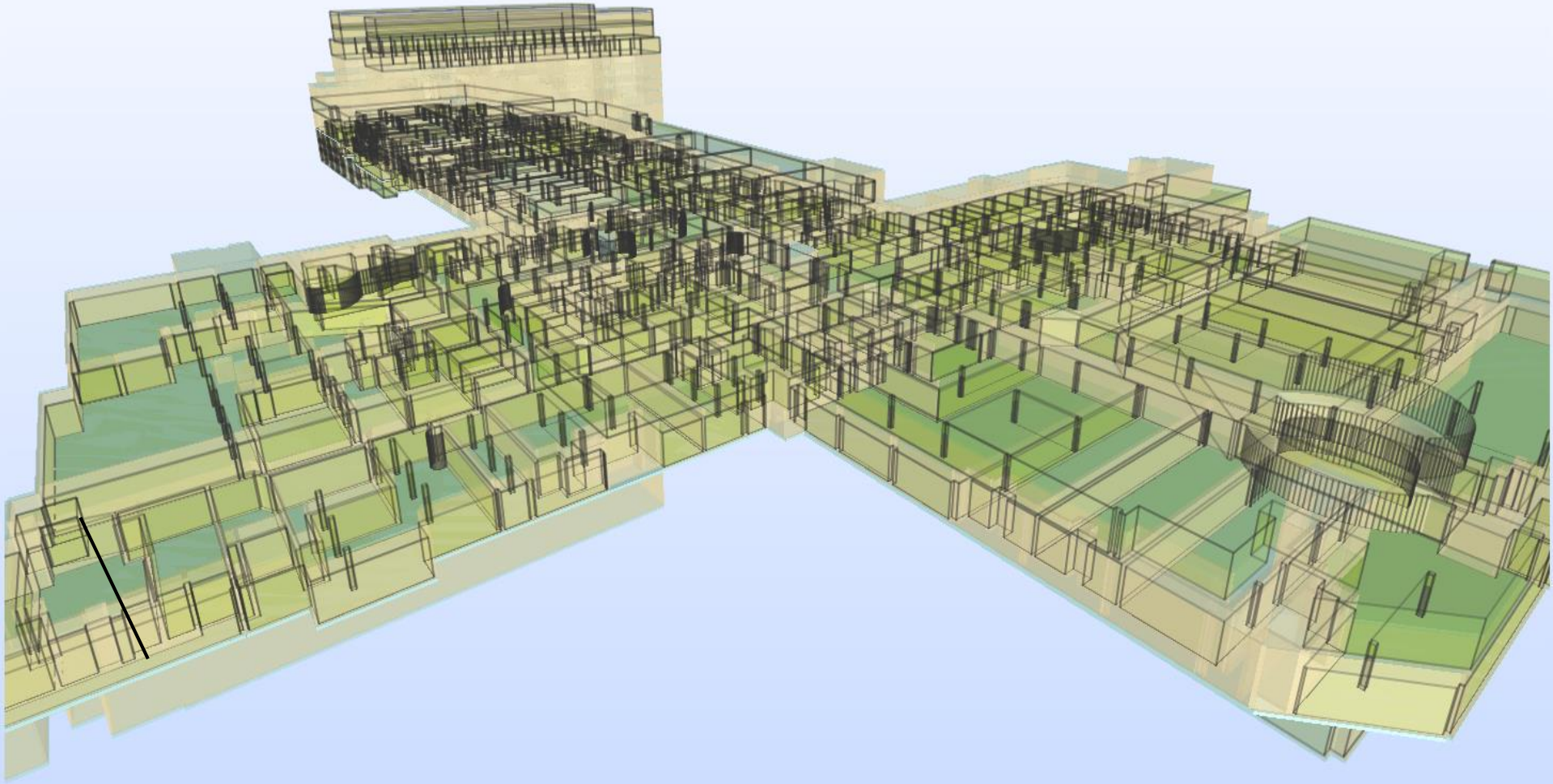
Tools: Revit 2013, Solibri v. 9.6, in-House tool ***Crime2IFC***

- fieldwork inspection → suggestion for improvements


UNIT TYPE - UTRYMMESTYP
Retail - Butik 30087 m²
Office - Kontor 187,5 m²
Storage - Lager 288 m²
Miscellaneous - Övriga utrymmen 418,5 m²
Common areas - Allmänna utrymmen 7782 m²
Maintenance corridors - Allmänna kommunikationsgångar
Technical premises - Driftutrymmen 103,6 m²

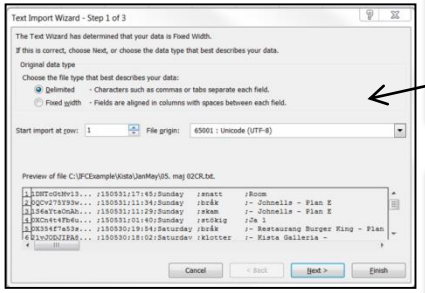
MACRO-SCALE

The shopping center



Records security company PDF-XML

XML files & data pre-selection



Filter crime Codes-keywords

Matching crime to location-model

Populating the open-format BIM

Drawing the object-oriented model

Building in pdf format

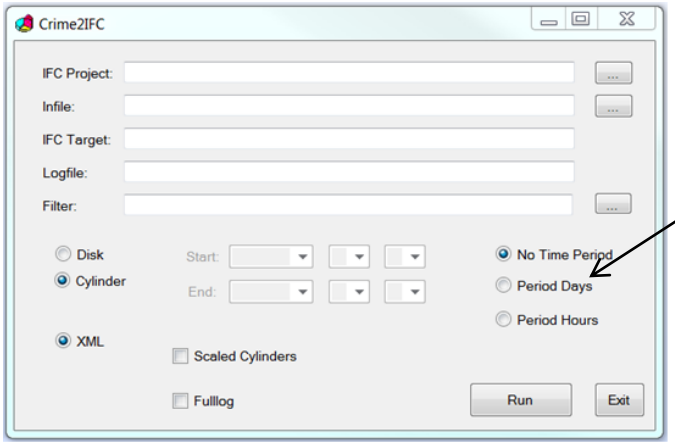
Visualisation

Time

Space

Fieldwok

Suggestions for crime prevention

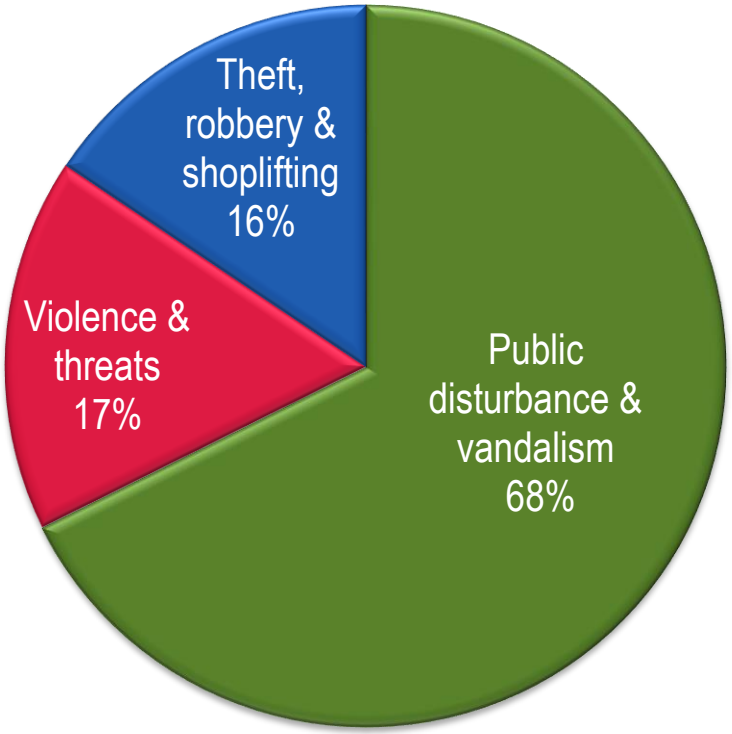


RESULTS

Are shopping centers risky places?

What, when and where?

Which are the most common events?

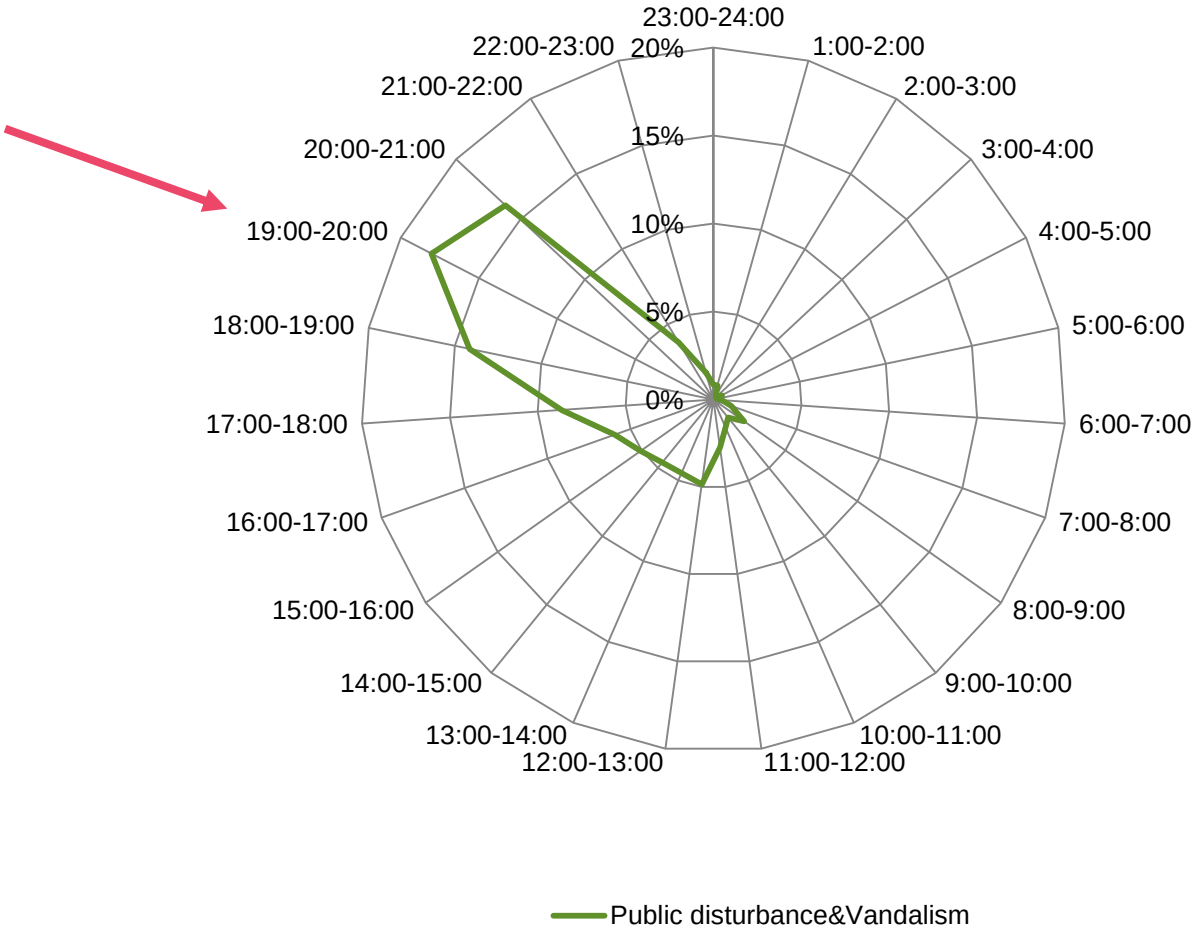


Jan 2014-May 2015
N=5768 events

11,2 cases per day

about 1 event per open hour

When do most events happen?



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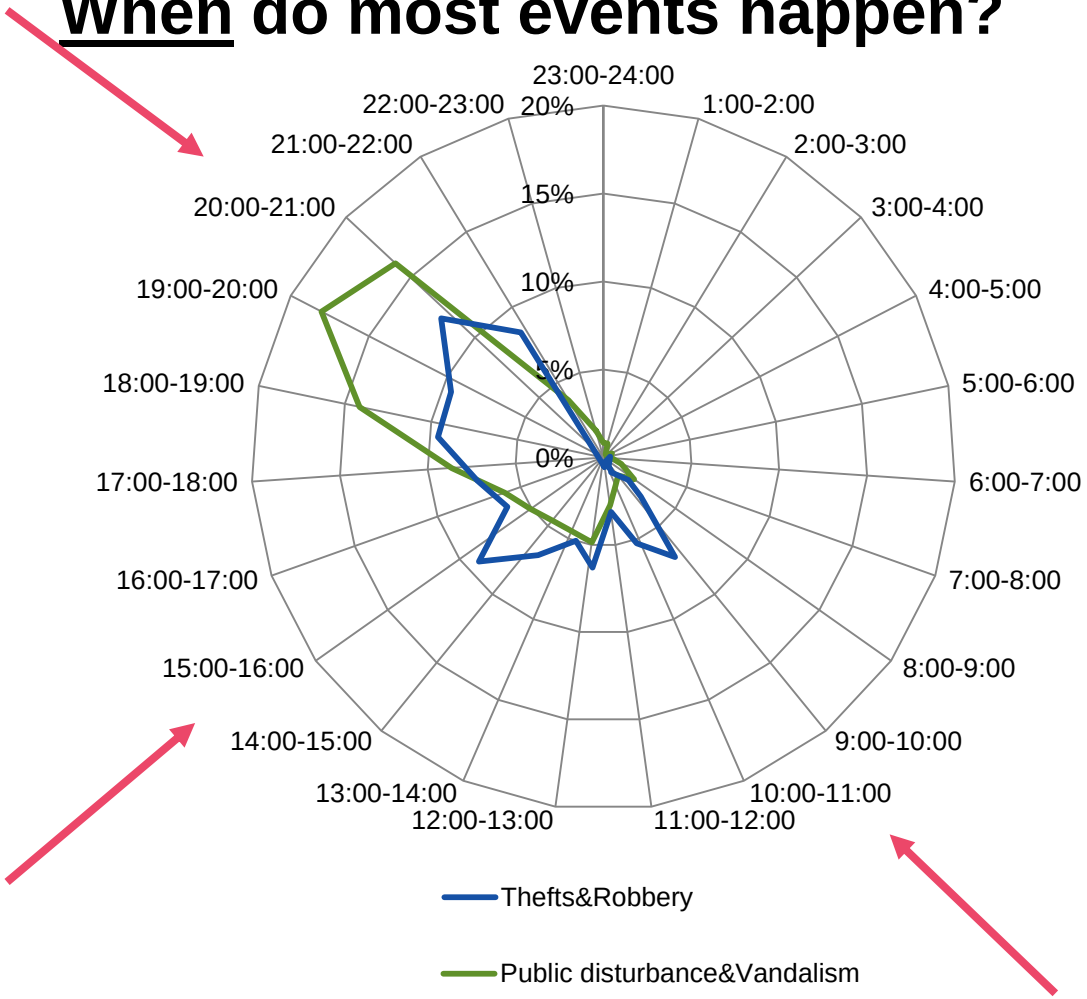

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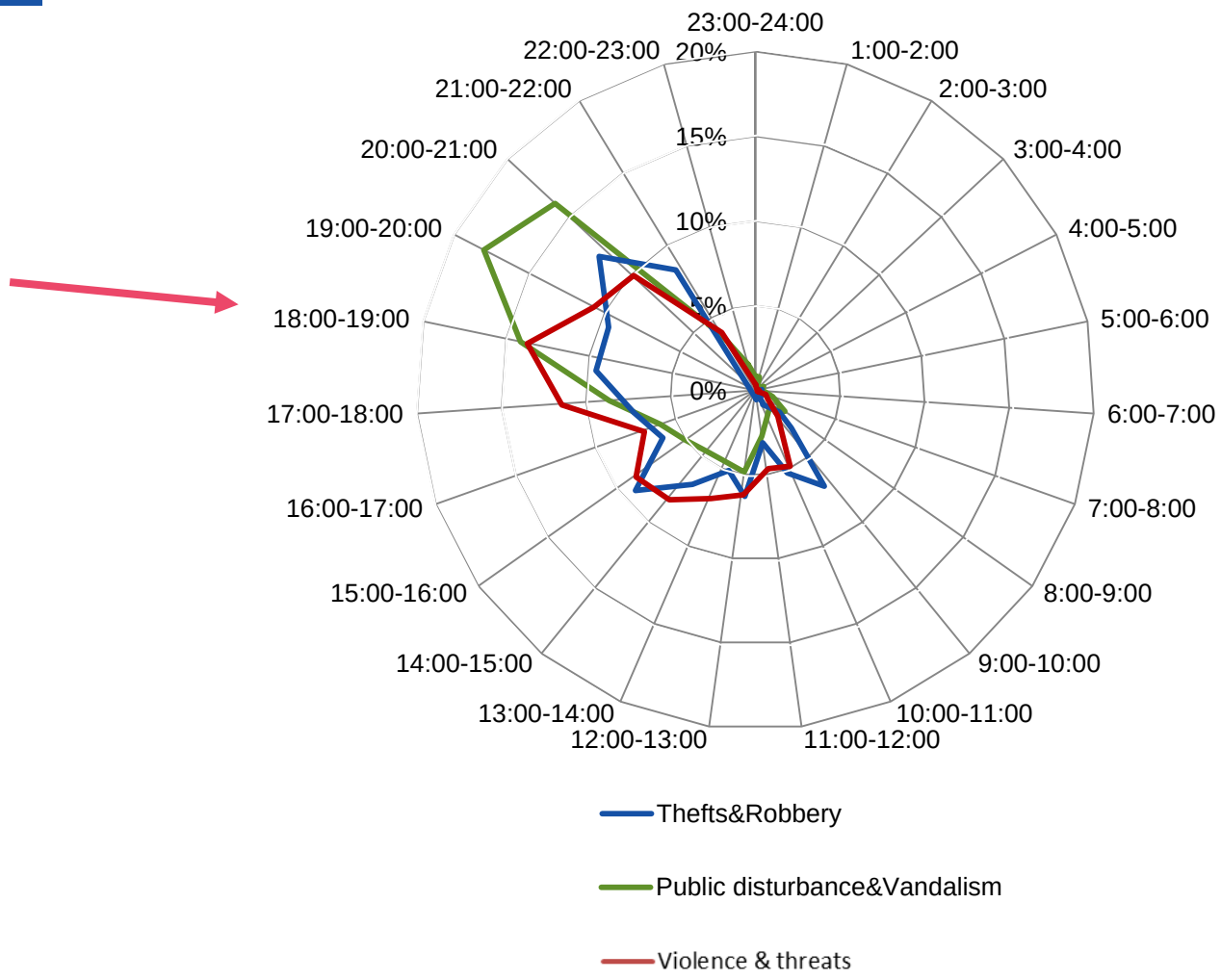
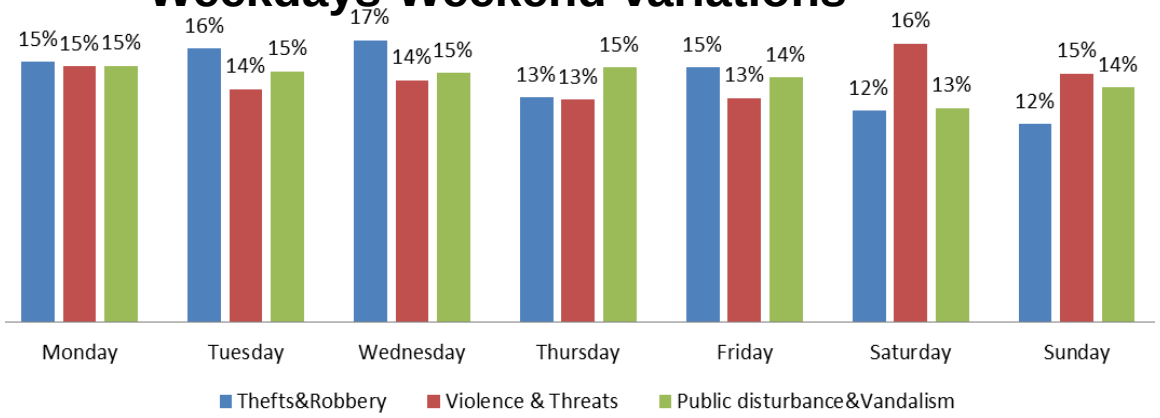
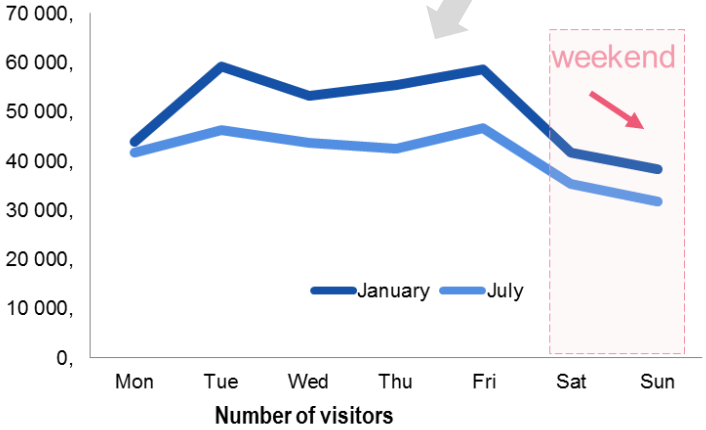


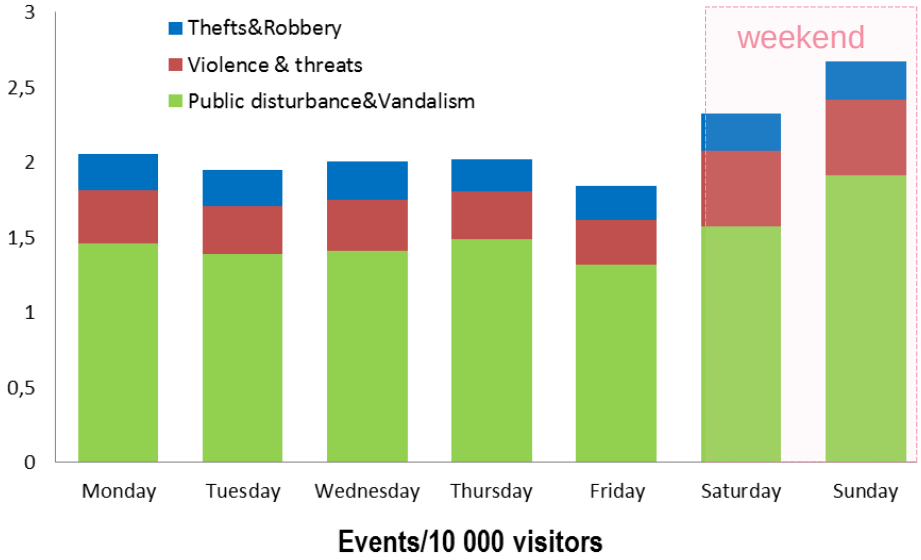
Weekdays-Weekend variations

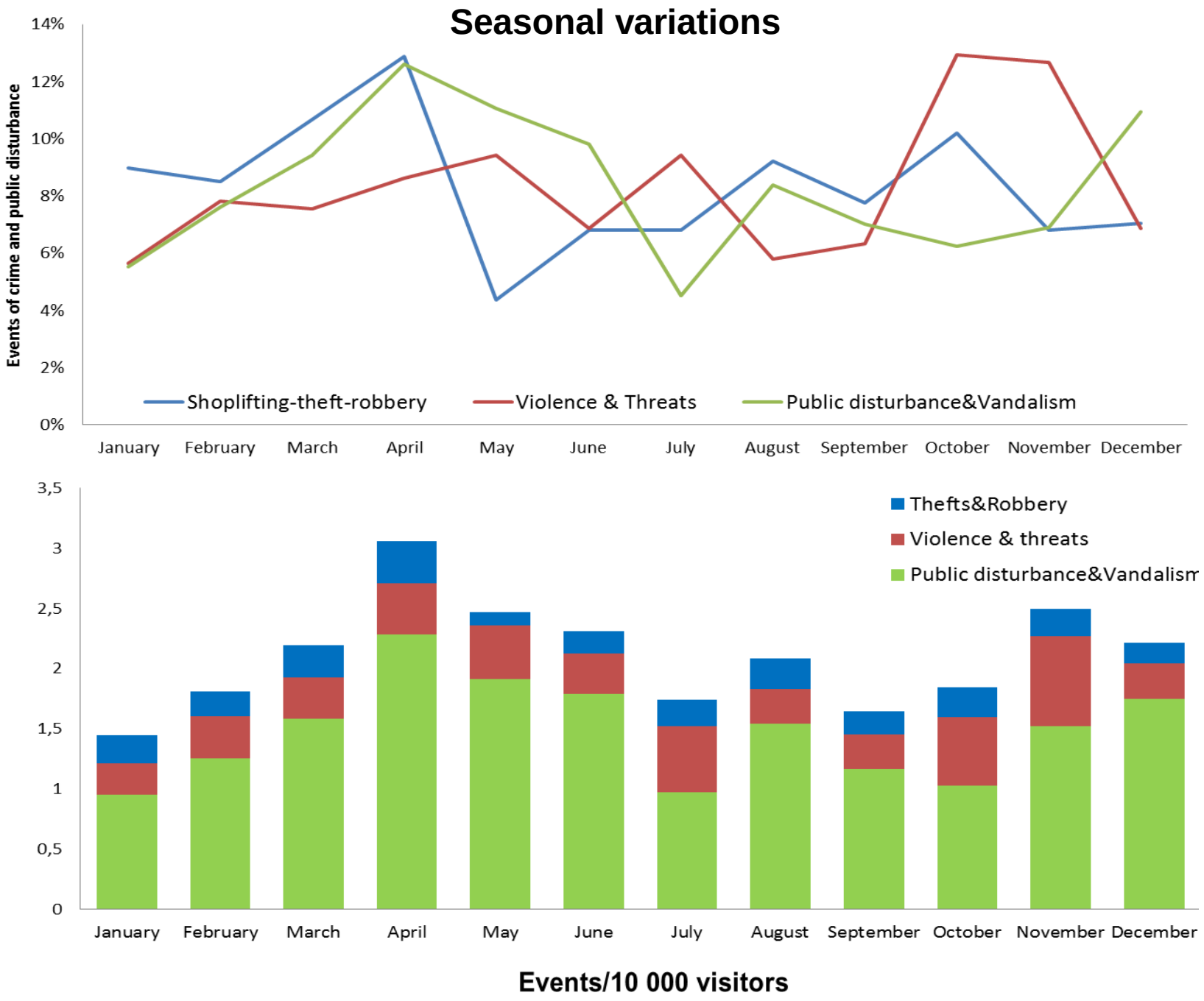


Days of the week

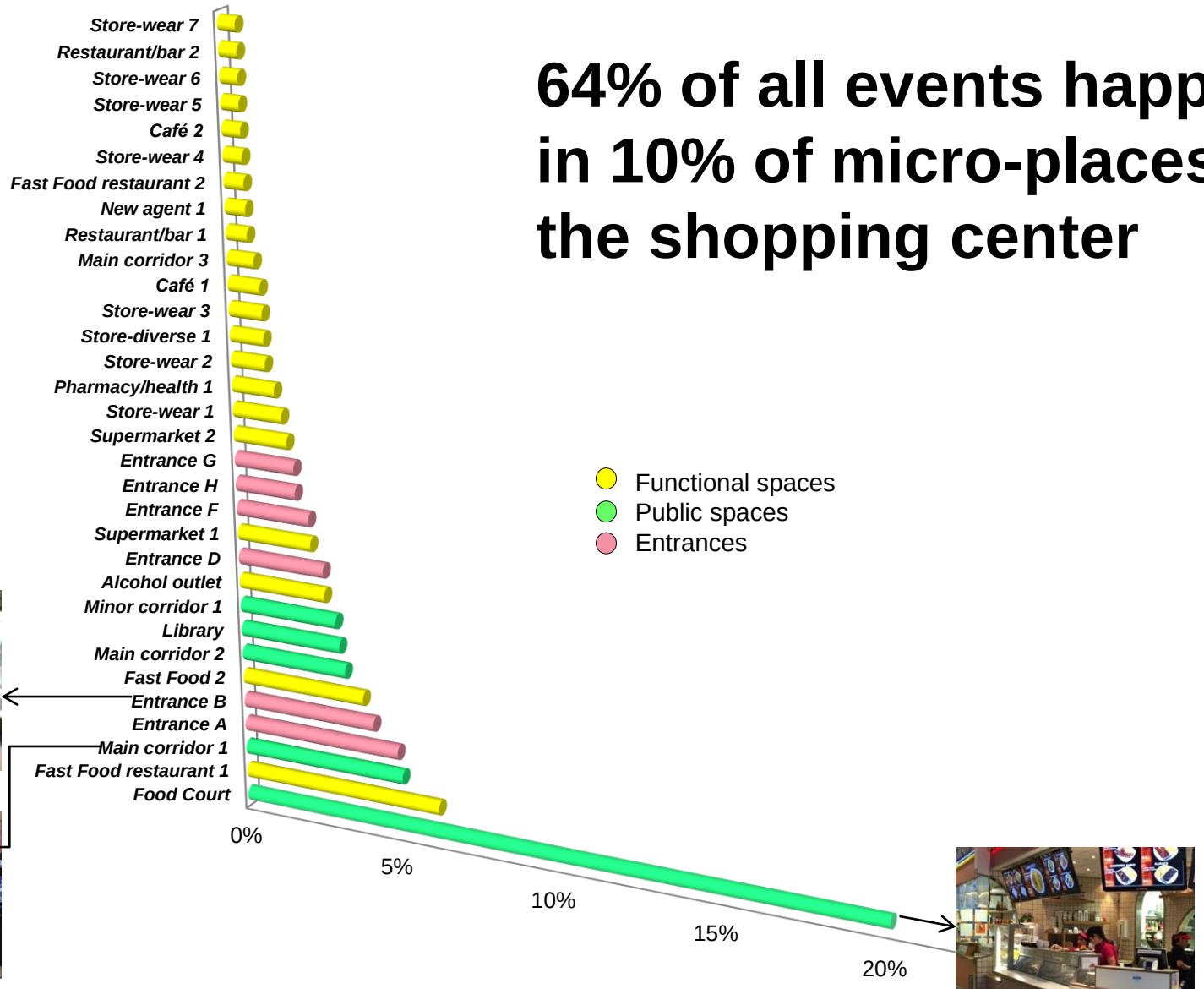


Average 358 000 visitors a week (trading hours, 2014)

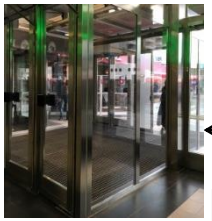


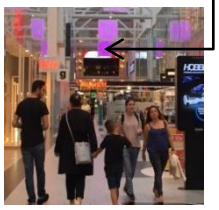

Seasonal variations
Events of crime and public disturbance
14%
12%
10%
8%
6%
4%
2%
0%
Shoplifting-theft-robbery
Violence & Threats
Public disturbance&Vandalism
January
February
March
April
May
June
July
August
September
October
November
December
3,5
3
2,5
2
1,5
1
0,5
0
Thefts&Robbery
Violence & threats
Public disturbance&Vandalism
Events/10 000 visitors

Where do most events happen?

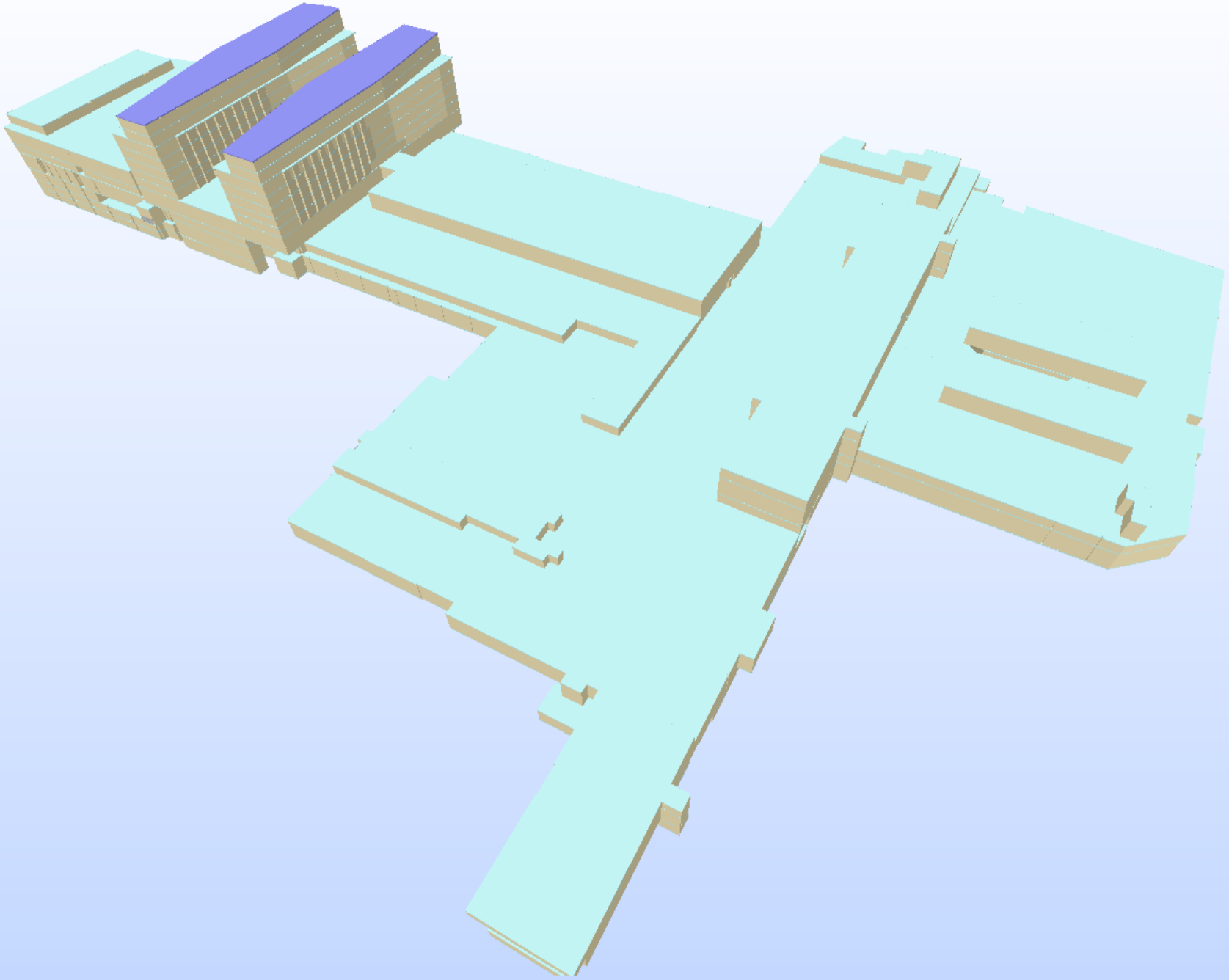


64% of all events happen in 10% of micro-places in the shopping center





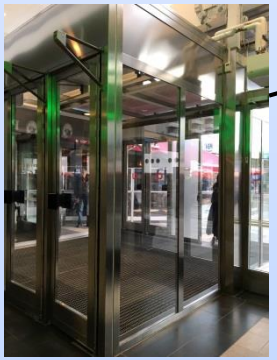
N= 5010 - 86% of events were mapped out of 5768



Meso-level: Main retail floor

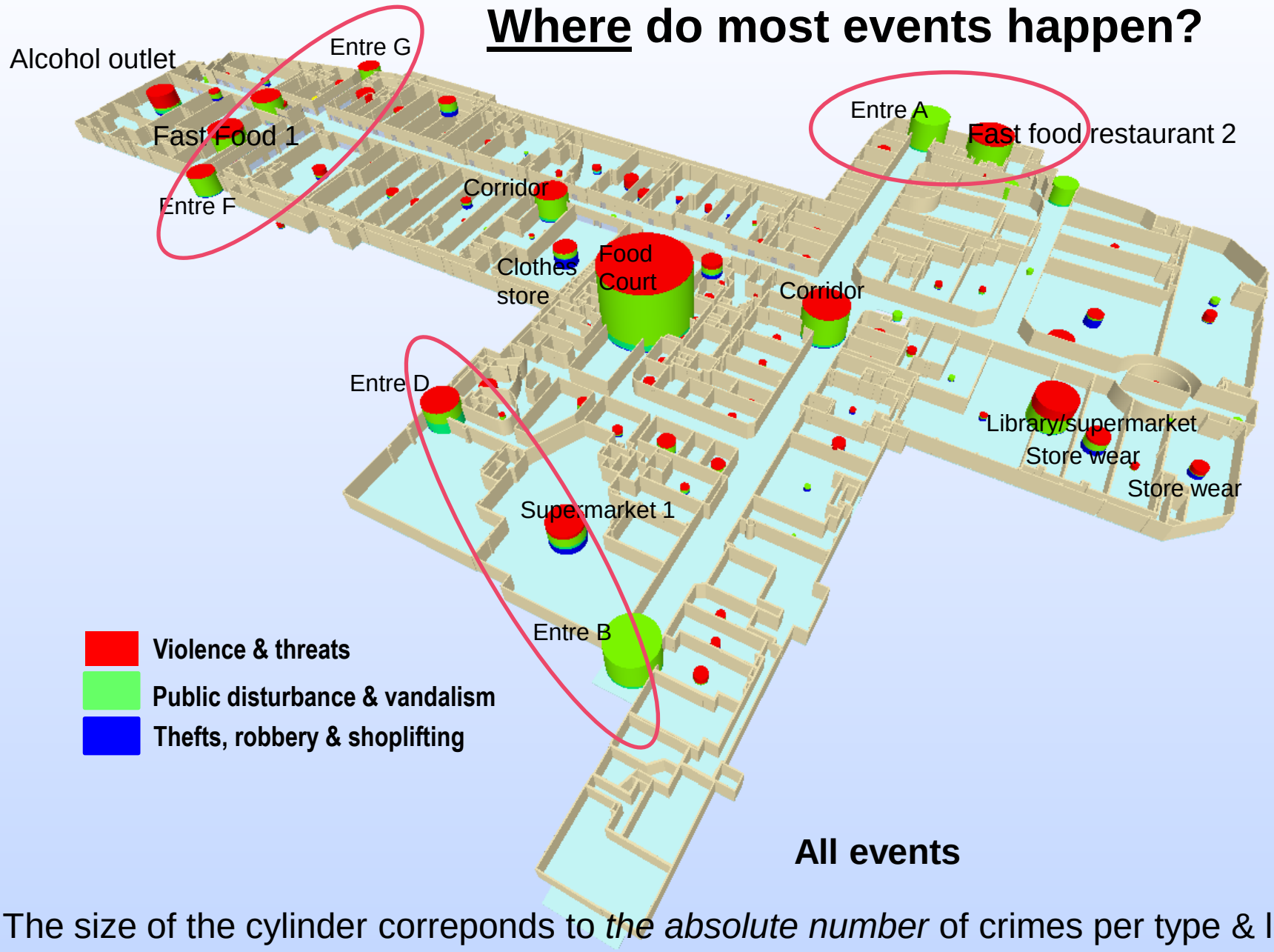
Main corridor

Food court



entrance

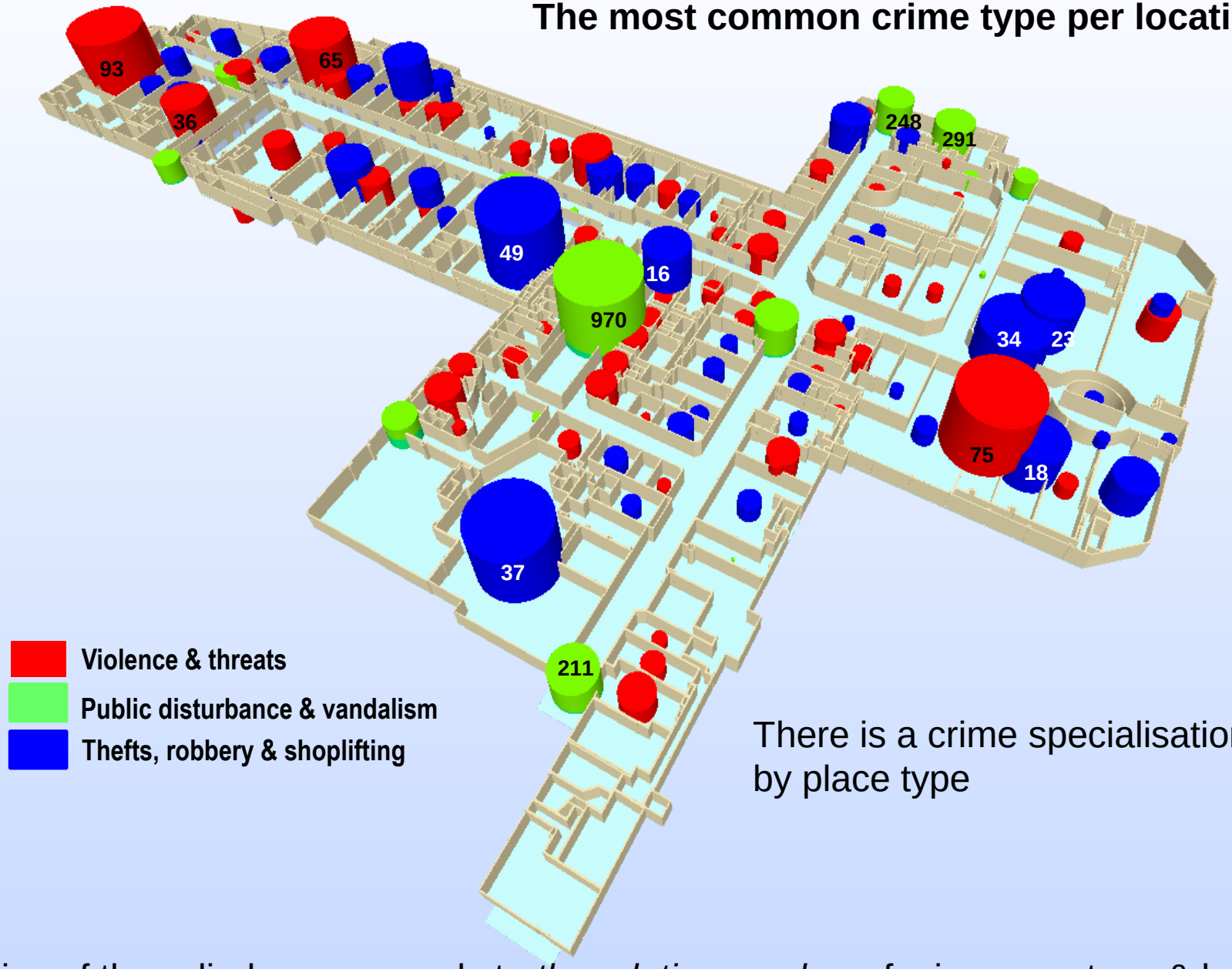
Where do most events happen?



All events

The size of the cylinder correponds to *the absolute number* of crimes per type & location

The most common crime type per location



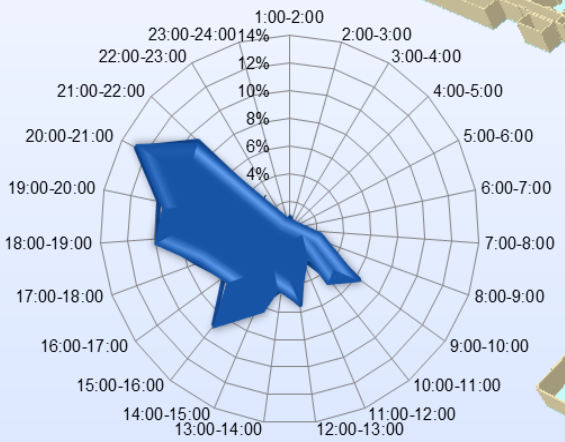
There is a crime specialisation by place type

The size of the cylinder correponds to *the relative number* of crimes per type & location

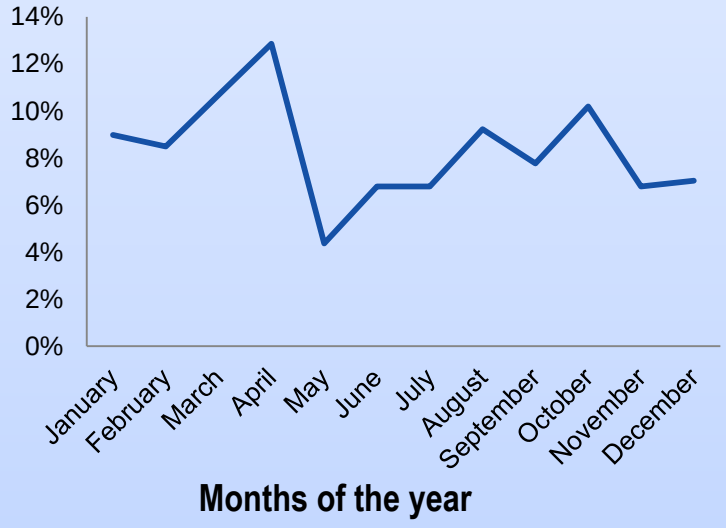
Crime prevention requires crime profiles in time & space

- **By crime type**

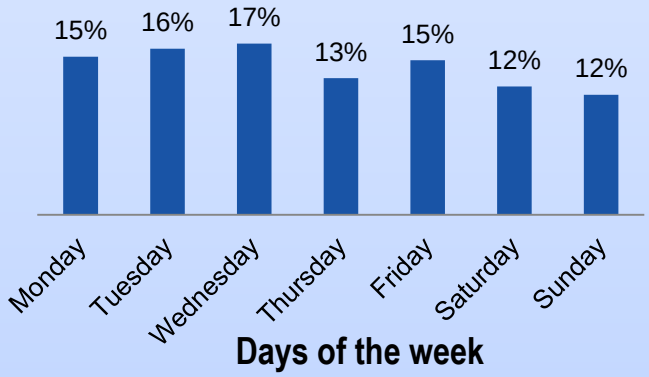
Theft, robbery & shoplifting



Hours of the day



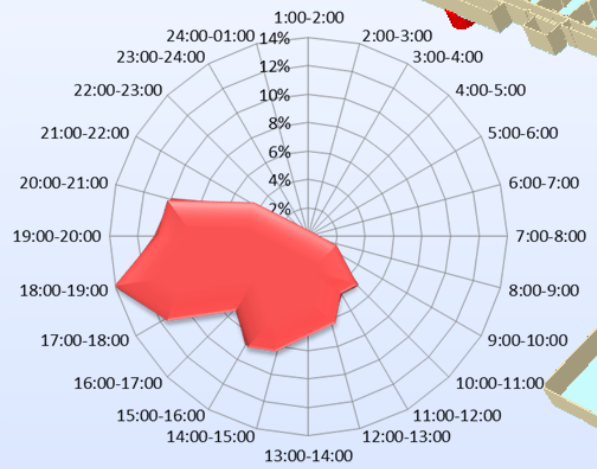
Months of the year



Days of the week

Violence & threats

17%



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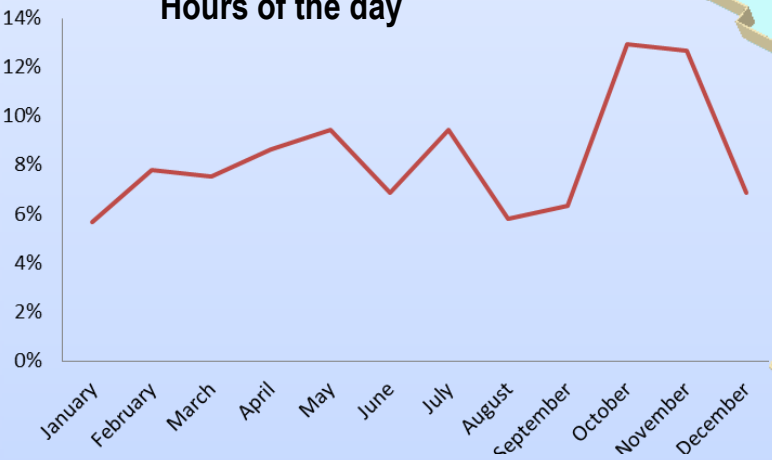

Months of the year

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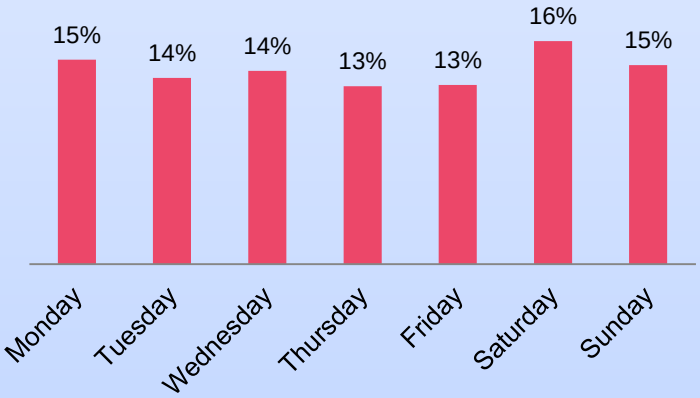
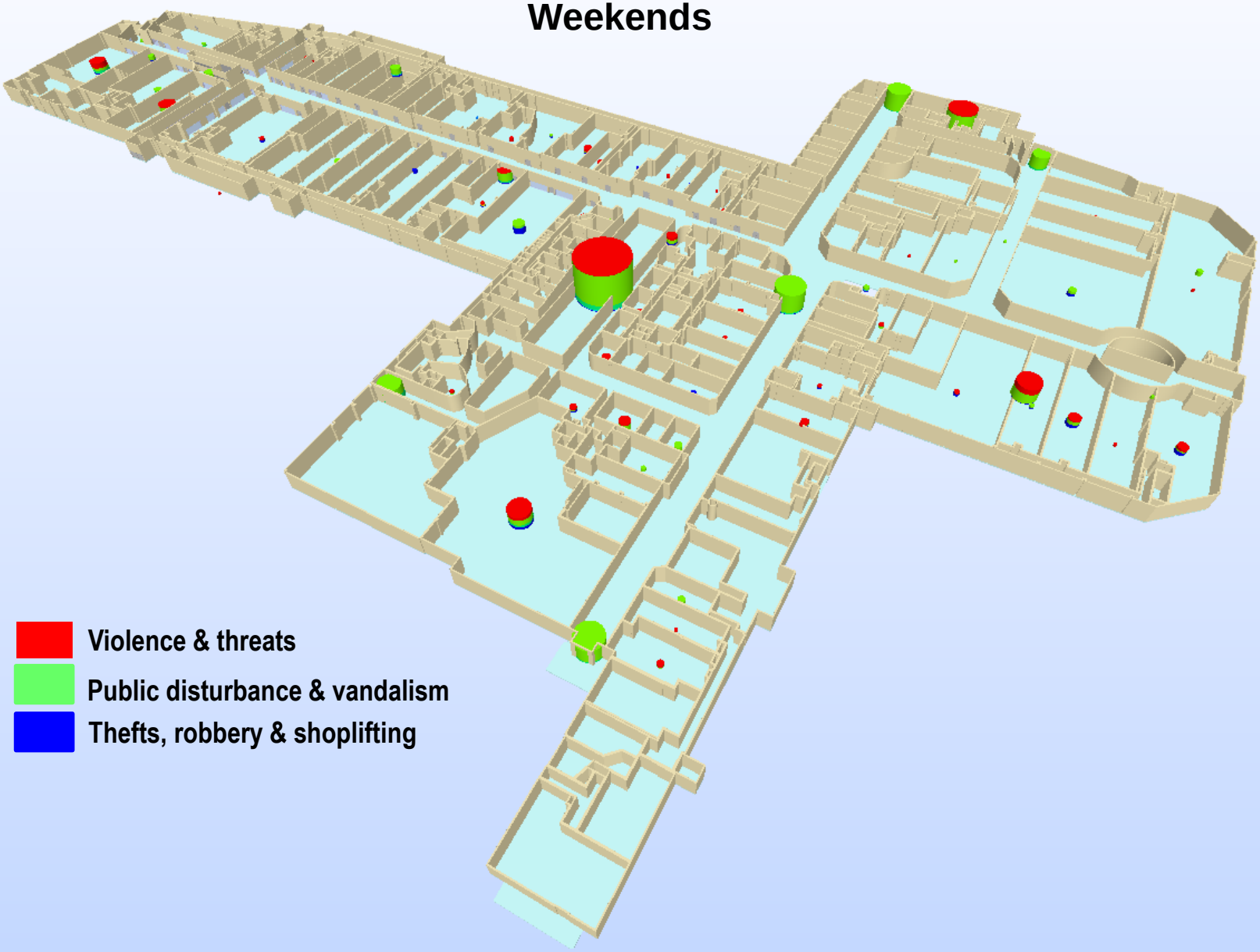


Days of the week

Crime specialisation

- **By time**

Weekends


Violence & threats
Public disturbance & vandalism
Thefts, robbery & shoplifting

All week

Violence & threats
Public disturbance & vandalism
Thefts, robbery & shoplifting

Are shopping centers risky places?

64% of all events happen in 10% of micro-places in the shopping center

- **The food court**
- **Entrance(s)**
- **Particular premisses**

Transmission Management

– handlers

Controllers, guardians

IMPLICATIONS TO PRACTICE

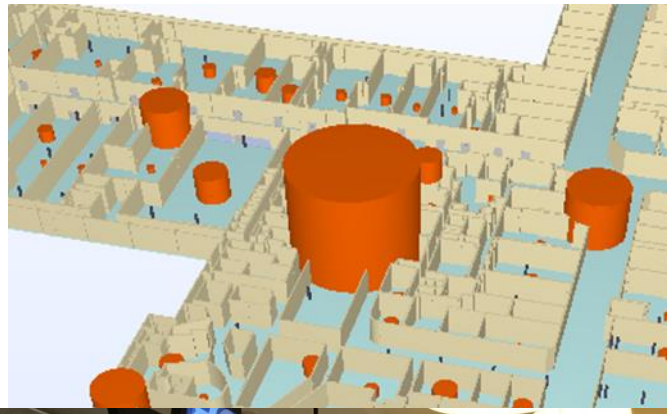
There are 3 types of places most in need

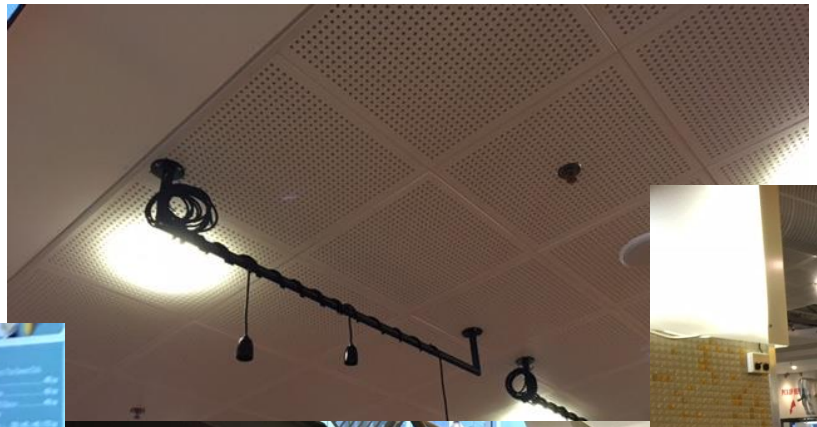
Public spaces → • **The food court**

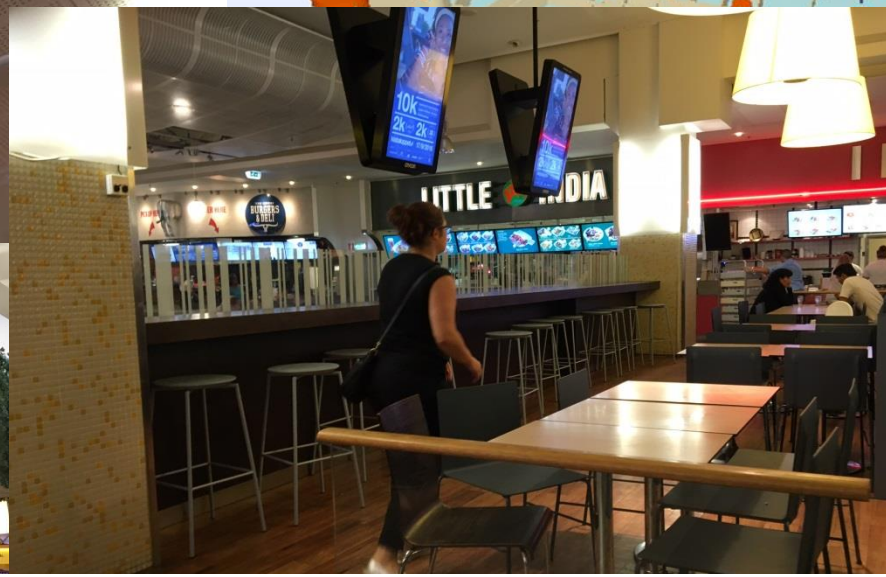
Entrances → • **Entrance(s)**

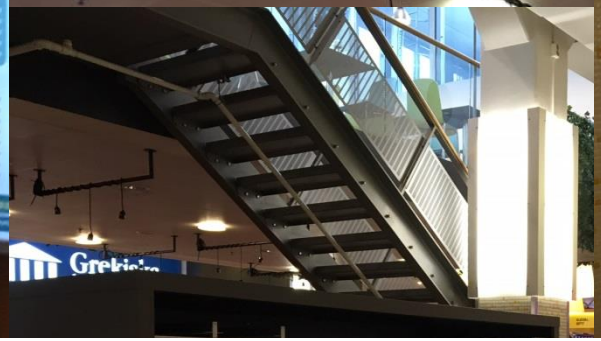
Funtional spaces → • **Particular premisses**

The food court

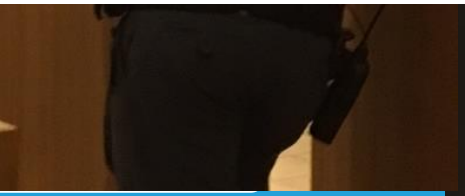


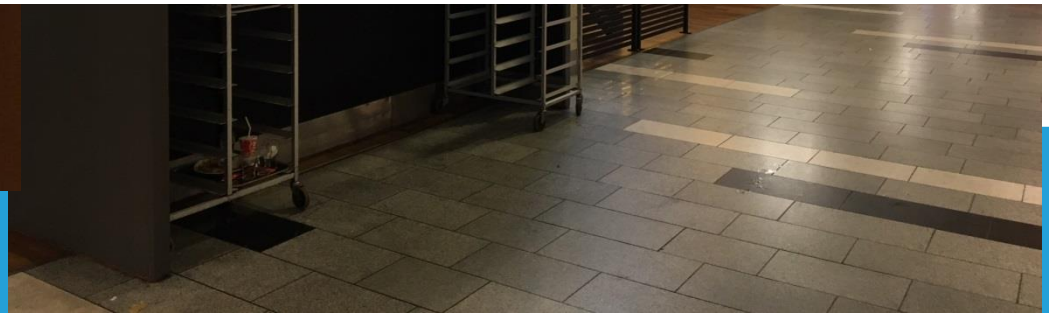




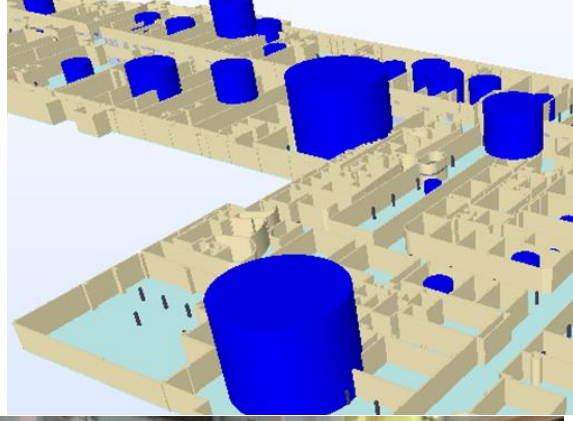


More than formal social control, security of the food court can be improved by dealing with issues of design ----- **<u>permeability and territoriality</u>**



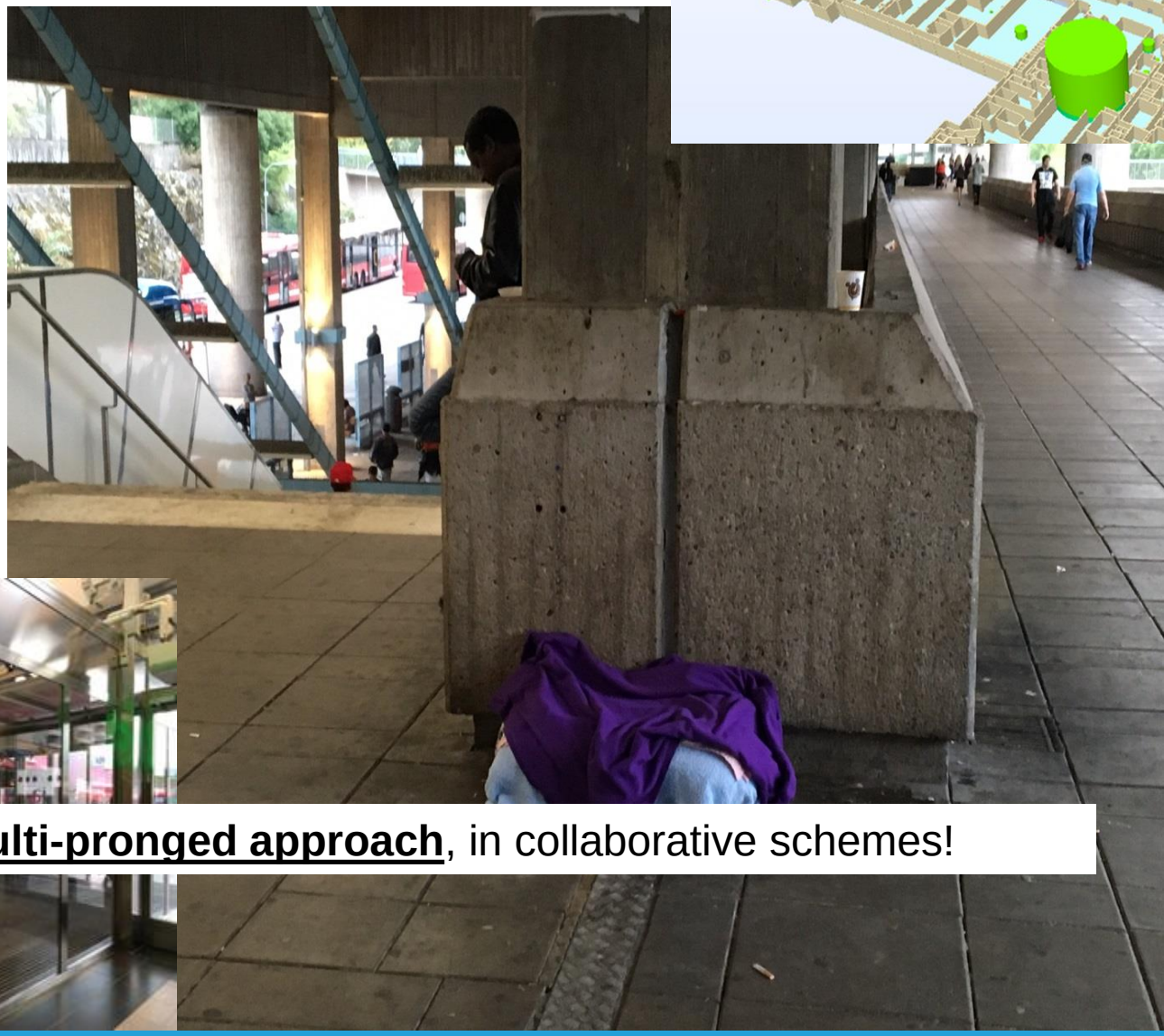


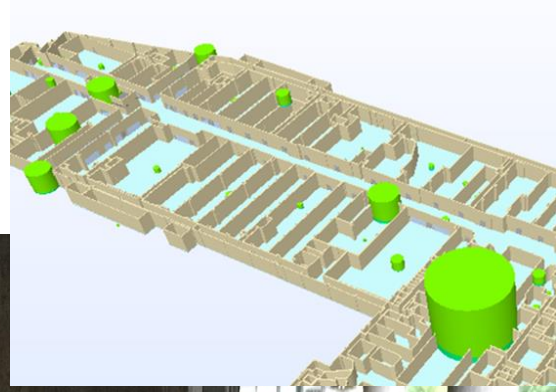
Stores



Crime prevention measures have to <u>be business specific!</u>

Entrances/exits





Some problems require a **multi-pronged approach**, in collaborative schemes!

Safety perceptions in the shopping center

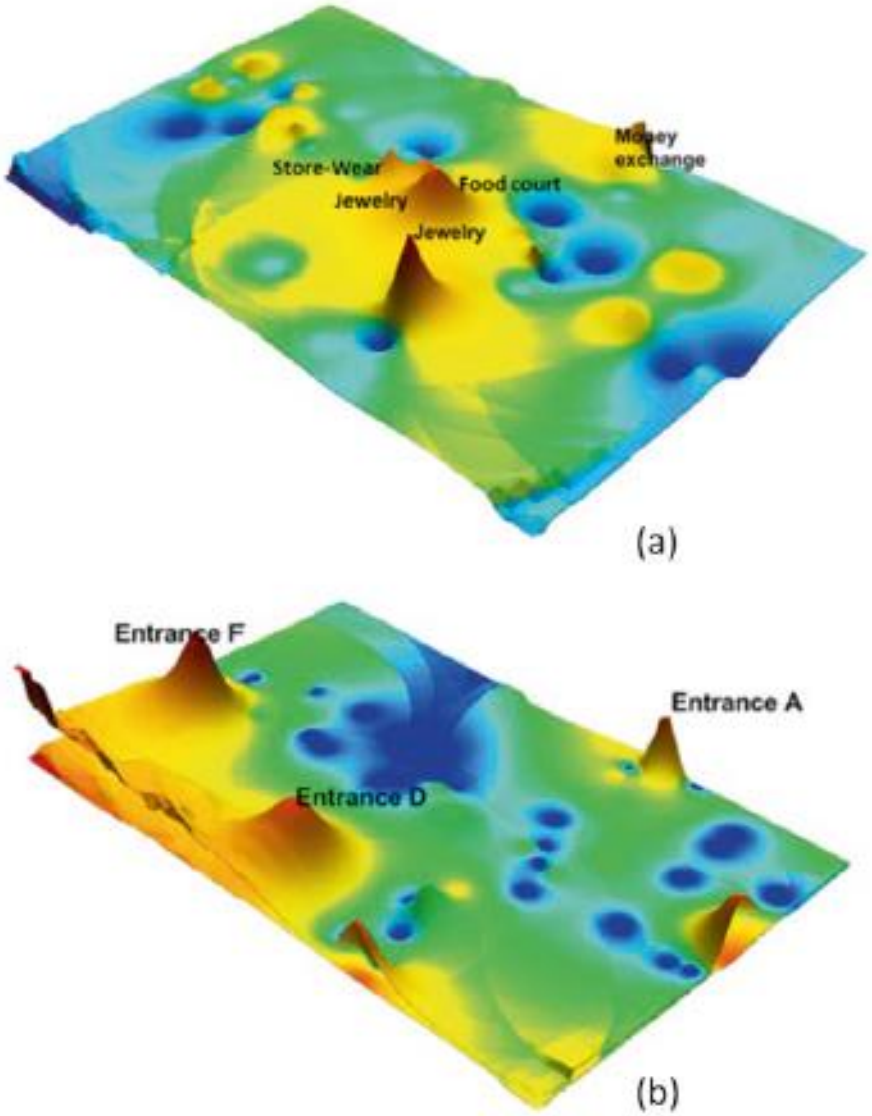


Fig. 9.3 Representation of **(a)** where shopping visitors witnessed crime and **(b)** where they felt unsafe in the shopping mall

In the shopping mall …

young people may want a central place to gather,

while the old want freedom from noise, jostling and fear,

one shop may wish to sell fast food, while its neighbours may not wish to be buried beneath boxes of half-eaten chicken legs.

(Ekblom, 1995, p. 45)

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Thank you!

Suggestion for reference:

Ceccato, V. (2016). Are shopping centers risky places?.
Paper presented in the webinar series “Risky places for crime”,
Safeplaces network-Nottingham Trent university, 2nd September 2021.

Further reading:

1. Bamfield, J. (2012). *Shopping and crime*. Palgrave.

2. Ekblom, P. (1995). Less Crime, by Design. *The Annals of the American Academy of Political and Social Science, 539*(1), 114–129.

3. Rengert, G & Ratcliffe, J. (2000/5) Inmate Violence Against Correctional Staff: An Environmental Analysis of Risk.

4. Savard, D. M., & Kennedy, D. K. (2014). Crime and Security Liability Concerns at Shopping Centers. In K. Walby & R. K. Lippert (Eds.), Corporate Security in the 21st Century: Theory and Practice in International Perspective (pp. 254–275). London: Palgrave Macmillan.

And also:

- Ceccato, V. (2016). Visualisation of 3-Dimensional Hot Spots of Crime in Shopping Centers. Paper presented at the Retail Crime: International Evidence and Prevention, Stockholm.

- Ceccato, V. (2018). Perceived Safety in a Shopping Centre: A Swedish Case Study In V. C. a. R. Armitage (Ed.), Retail crime (pp. 215-242). Palgrave Macmillan. https://doi.org/10.1007/978-3-319-73065-3_9

- Ceccato, V., Falk, Ö., Parsanezhad, P., & Tarandi, V. (2018). Crime in a Scandinavian Shopping Centre. In A. R. Ceccato V. (Ed.), Retail crime: International evidence and prevention. Palgrave Macmillan, Cham https://link.springer.com/book/10.1007/978-3-319-73065-3