

Analysis of pedestrian trajectories: behavioural patterns and practices

Sylvain Lassarre - IFSTTAR

Two entries

- Practices
 - Material artefacts
 - Meanings
 - Competences
- Individuals
 - Economy
 - Psychology
- Rational
 - Attitude-behavior-choice



Norms (utility, social)

enrolement



adaptation

Analysis of stability and change

- Time/space
 - Trade-off: risk of accident (traffic)/distance/ rules
 - Constraints of coordination of the activity (crossing, vehicle/drivers/pedestrians)
 - Situated activity (proofs of agreement)
 - Adjusted (not normed)
 - Negotiated (not planned)

- Routine

- Practice = type of routinised behavior (accumulation of experiences)
- Shaped by a combination of fields of variable constraints (coordination, time, artefacts, competences, norms, ...)
- No possibility to get a single form of rationality

- Infrastructure

- Physical and cognitive accessibility

- Readability

- Standardisation

- Public space

- Urban network ↔ formes de civilité (pedestrian/driver)

- Dynamic reading/affordance

Trip A is a long trip with two changes of direction, which includes crossing scenarios i, ii and iii.



300
250
125m
9 mn

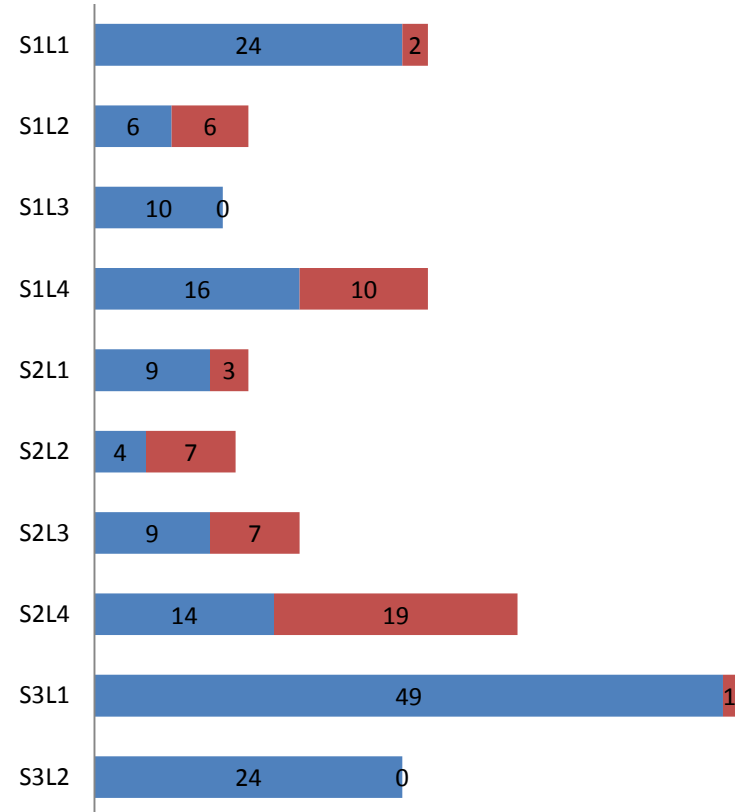
- Participants will be asked to go from the 'Da Capo cafe' (Patriarchou loakeim str.) to Evangelismos metro station (Vas.Sofias Ave.) via Ploutarchou str. The origin, the destination and the itinerary are such that the pedestrian will intuitively make three primary crossings, one on each road (see Figure 4). In particular:
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- At Patriarchou loakeim str., the participant has to walk for approximately two blocks, and cross Patriarchou loakeim str. at some point, in order to turn right at Ploutarchou str.; there are two signal controlled crosswalks along this section of Patriarchou loakeim str., as well as one uncontrolled crosswalk (**scenario i**).
- After turning right on Ploutarchou str., which is a two-way minor road with few shops and a couple of restaurants, the participant has to walk along four blocks and turn left at Vas.Sofias Ave., therefore he or she has to cross Ploutarchou str. at some point; there are two marked crosswalks along Ploutarchou str. (**scenario ii**)
- After turning left on Vas.Sofias Ave., the participant has to cross Vas.Sofias Ave, in order to reach the metro station across the Avenue; there is a signal controlled crosswalk available.

Satisfaction



Aller

■ junction ■ midblock



Trip B back



125
135
240
110
95m
9 mn

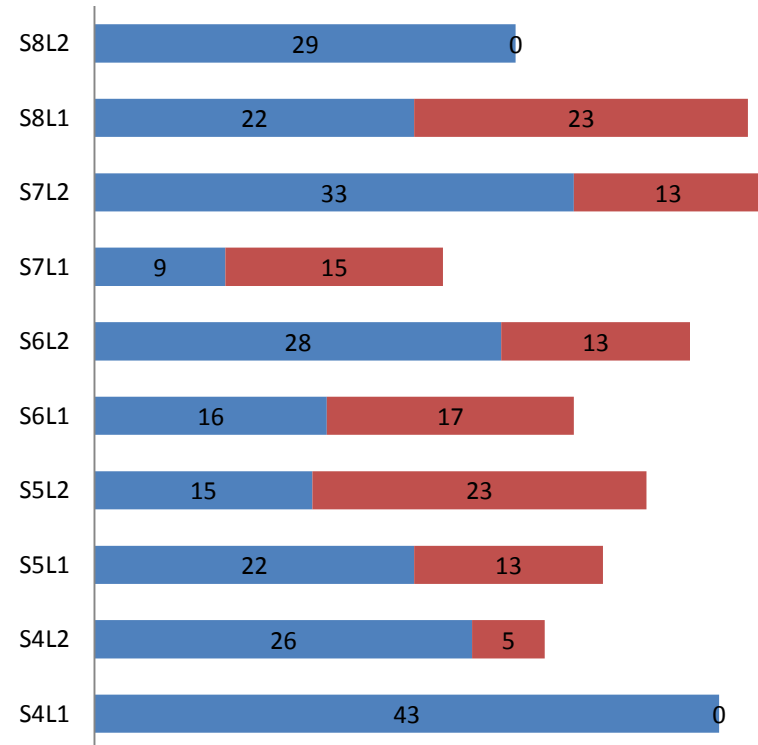
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- The participant departing from the Evangelimos station has to cross Vas.Sofias Ave. in order to reach Ploutarchou str. on the other side and turn right; there are two signal controlled crosswalks along this section of Vas.Sofias Ave. (**scenario iv**).
- After turning right at t Ploutarchou str., the participant has to walk for two blocks and turn left at Karneadou str., a minor residential road; therefore, he or she has to cross Ploutarchou str. There is no signal control for this crossing (**scenario v**).
- After turning left at Karneadou str., the participant has to walk for two blocks and turn right at Irodotou str.; this involves one crossing of Karneadou str. There is no signal control for this crossing (**scenario vi**).
- After turning right at Irodotou str., the participant has to walk for two blocks and turn left at Patriarchou loakeim str; there will be one primary crossing of Irodotou str., with no signal control option (**scenario vii**).
- Finally, the participant has to cross Patriarchou loakeim str. in order to reach 'Da Capo' cafe; there is a signal control crossing option (**scenario viii**).

there is no detectable difference between junction and midblock at minor roads

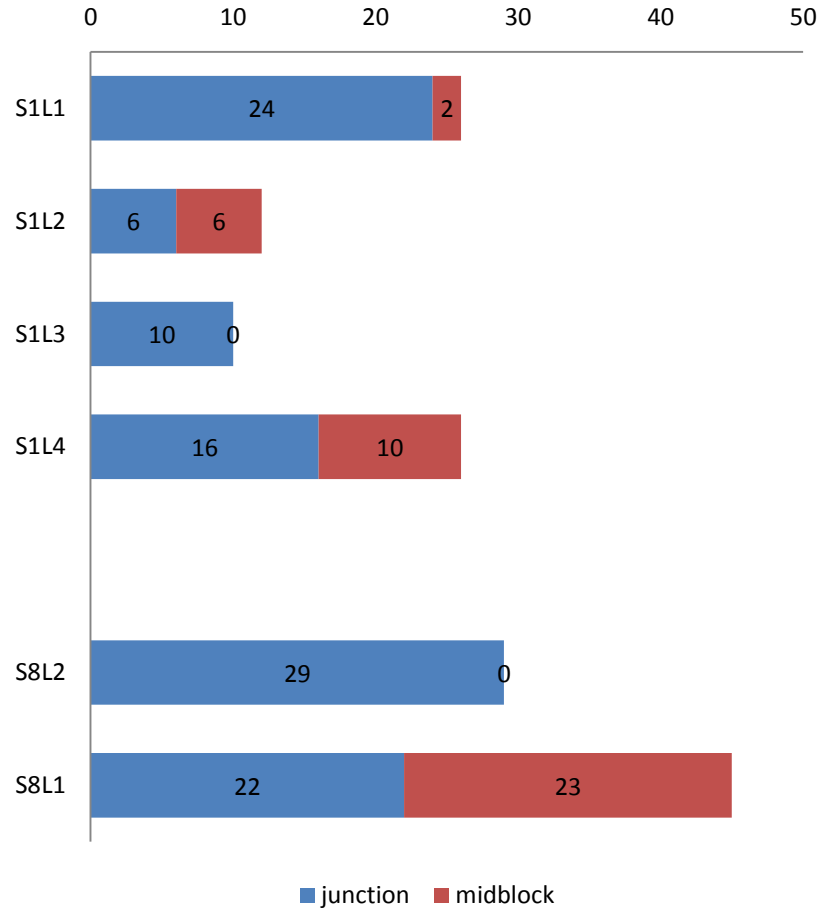


Back

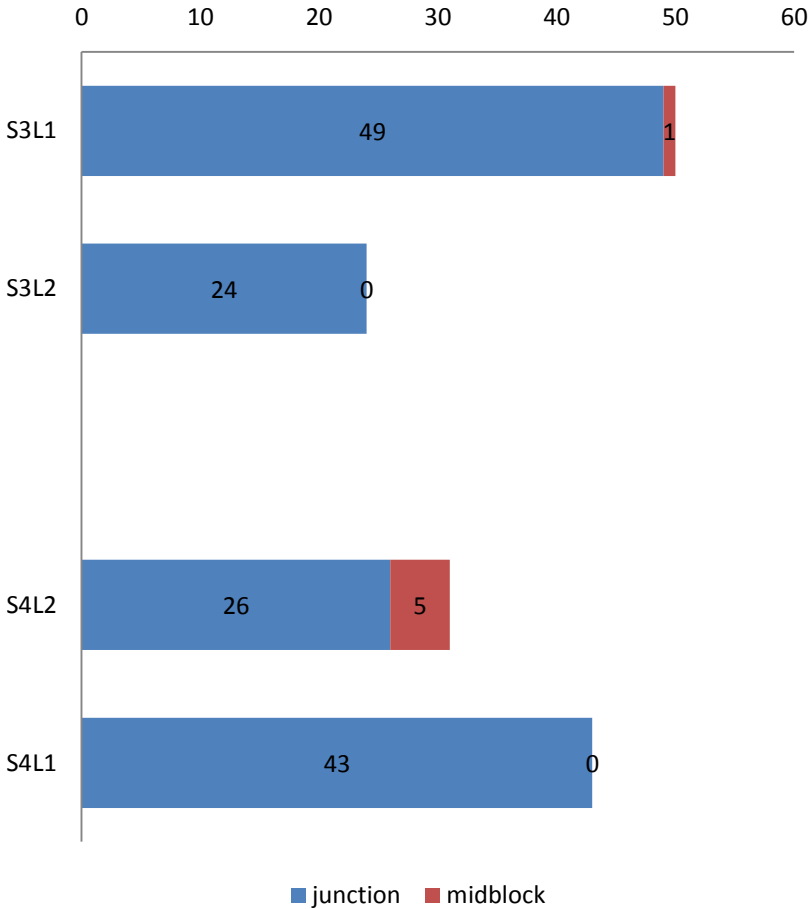
Series1 Series2



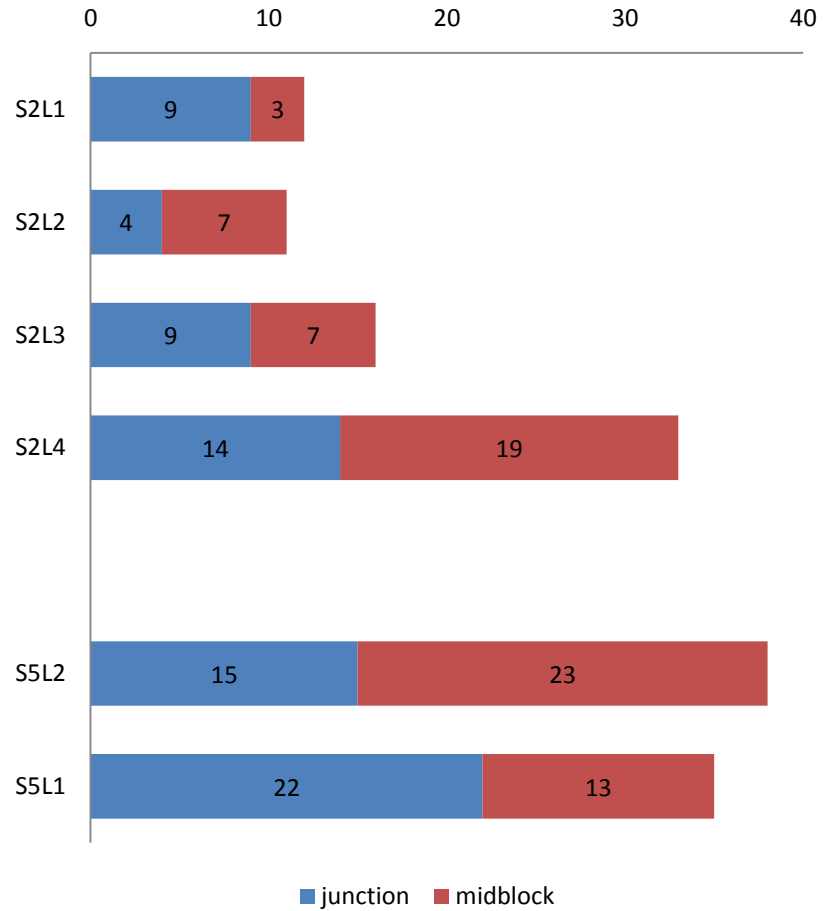
On secondary roads, there is a weak trend for crossing at junction



there are hardly any midblock crossings at major roads



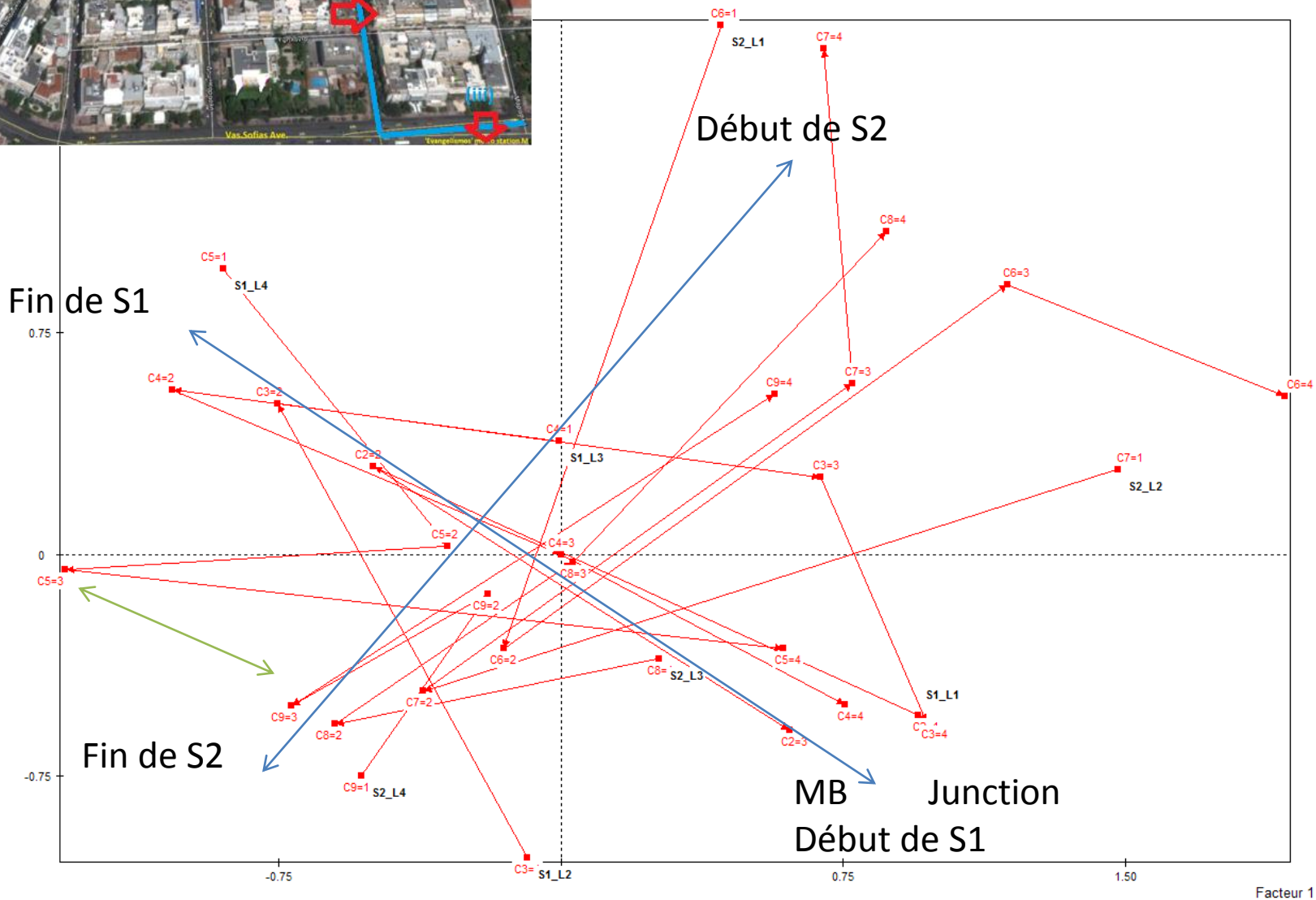
Distribution/concentration



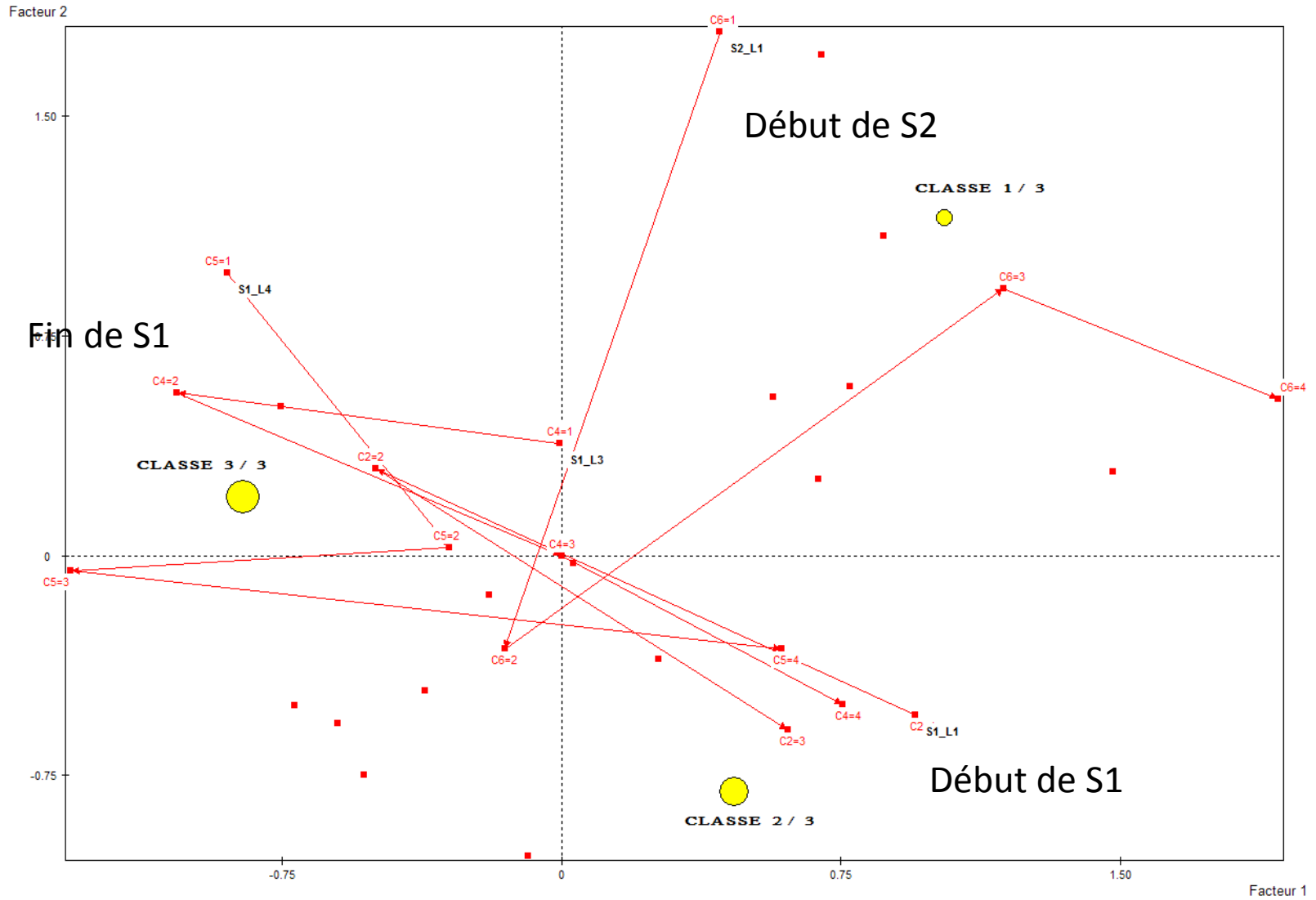
Coding of trajectories

- 74 subjects as lines of the complet disjunctive table
 - 20 variables corresponding to street sections with four items with two modalities
 - junction (yes/no)
 - no crossing (yes/no)
 - mid-block (yes/no)
 - realised (yes/no)
- as 80 columns 0/1

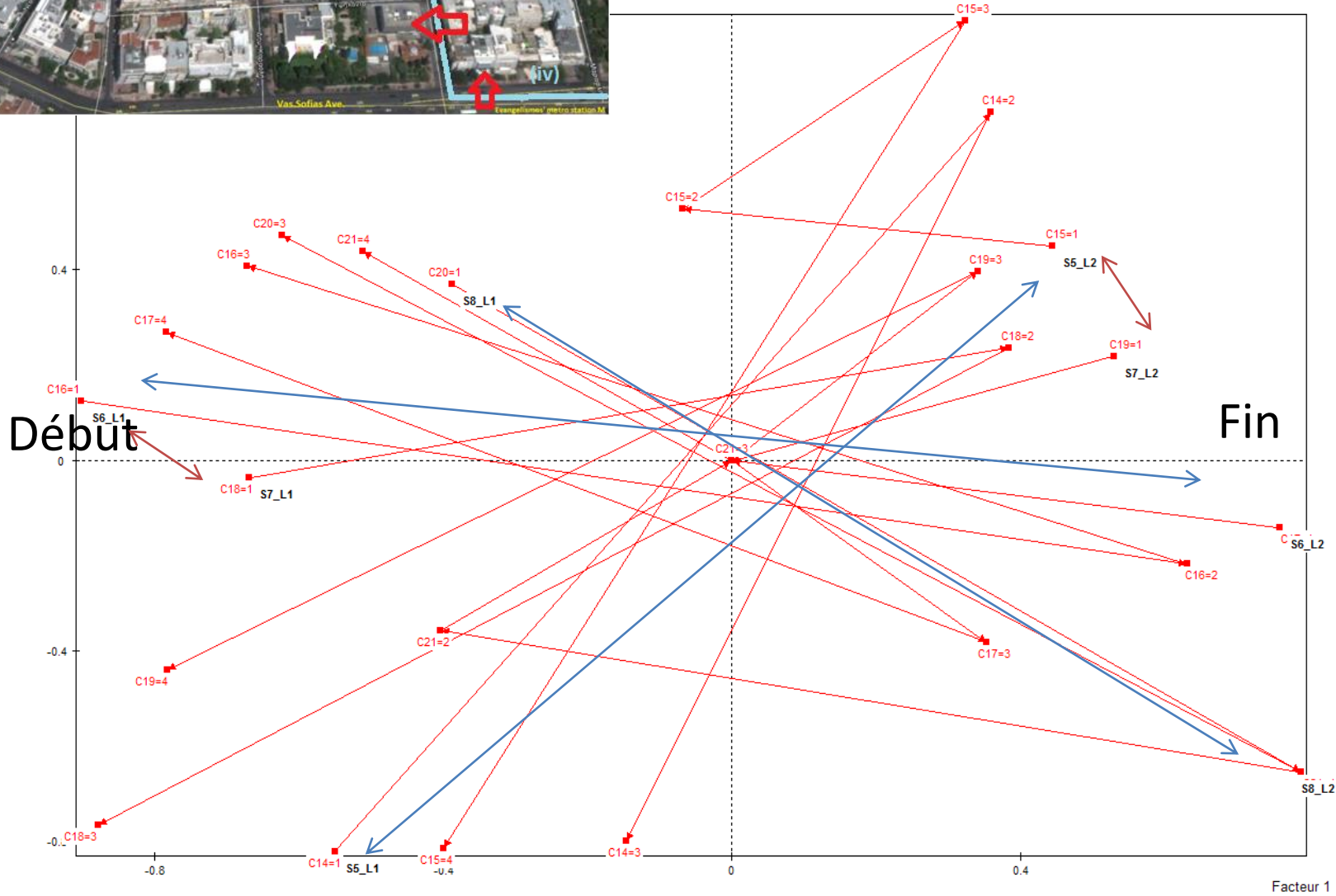
Aller S1 S2



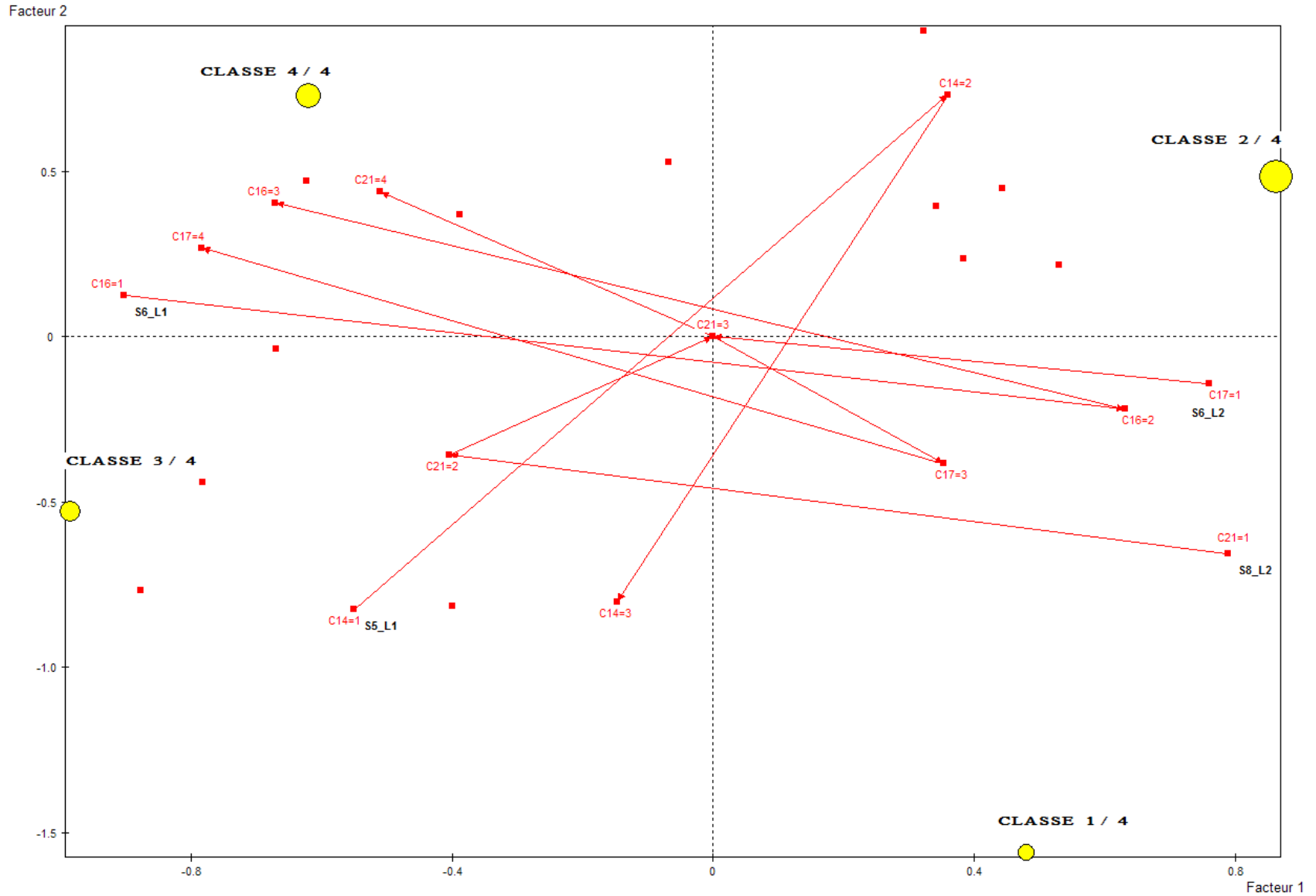
14 28 32



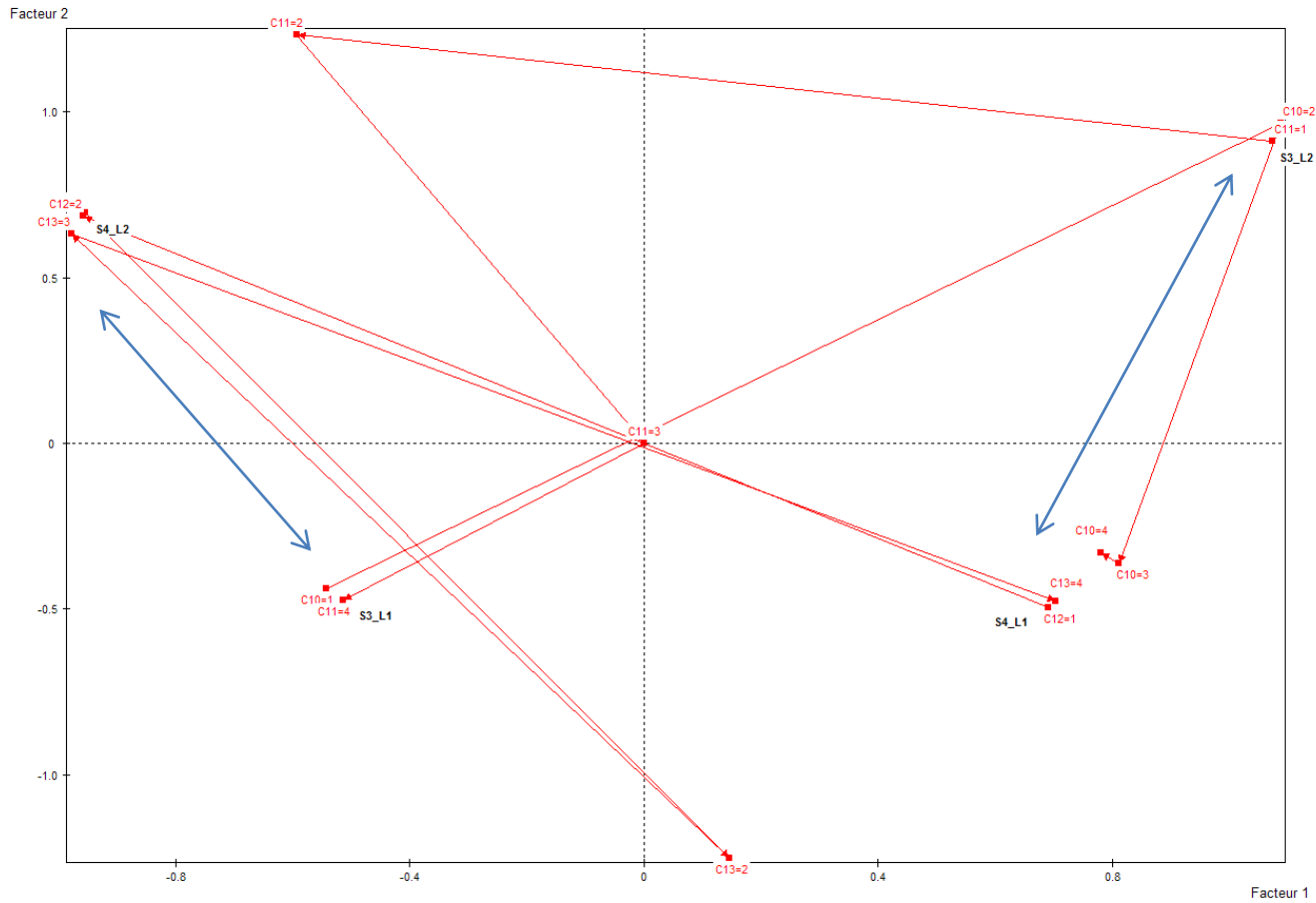
Back S5 S8



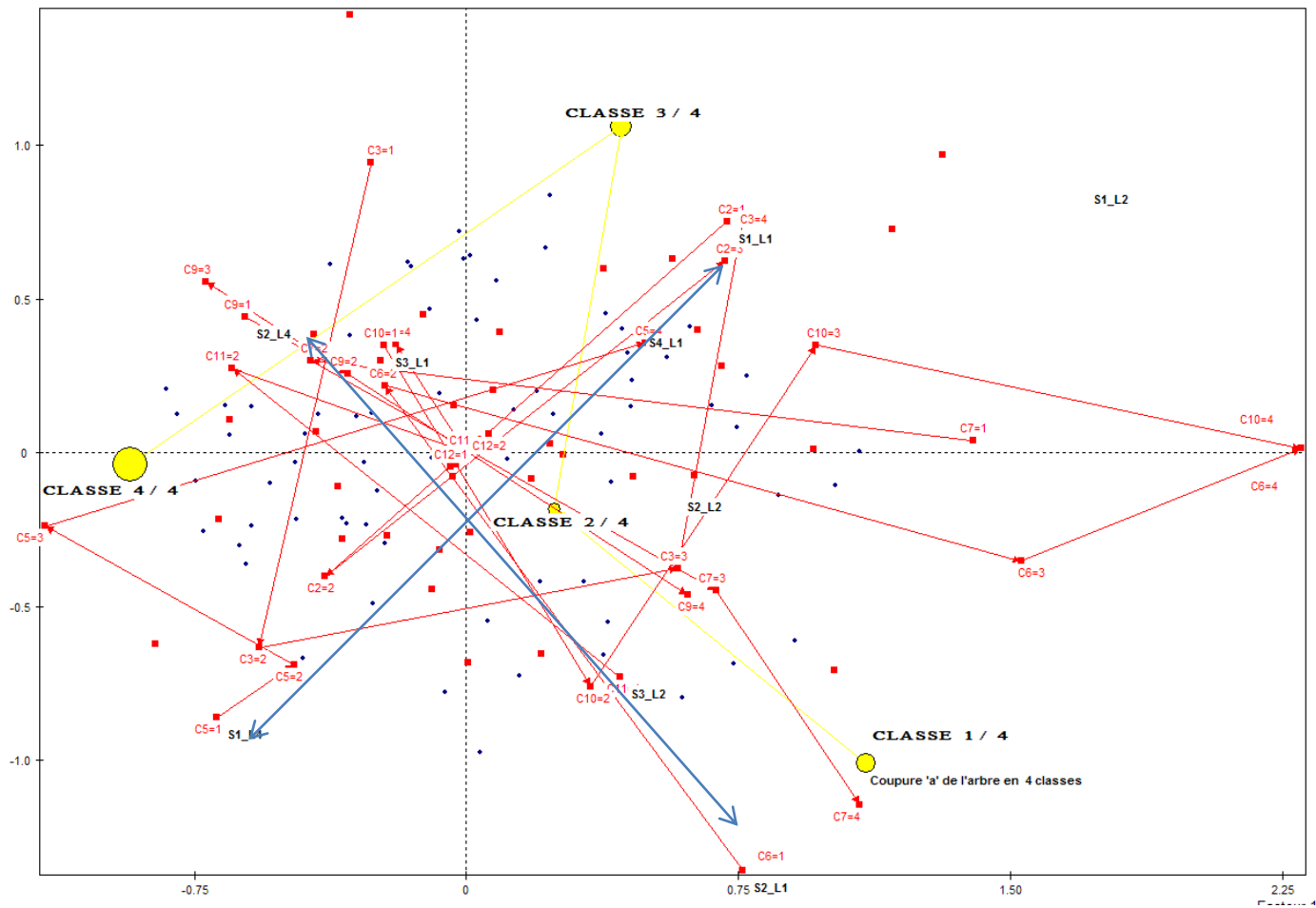
12 26 16 20



Aller S3 Back S4



Facteur 2



Conclusion

- Trend, Variability and Randomness
 - Beginning/end
 - Even on strong constraints of traffic
 - Mid-block/junction
 - Between « calm » sections
- Groups of individuals (4)
- Patterns of practices ?