

Work and school commuting are widely studied because of availability of information. On the contrary, shopping trips are less studied and means for family network, leisure, and social care (family, business, utility) (book, shopping paper, work, and shopping) (a field in the school, but not in the market) are not at all (2008)

# Sample Survey in three Italian Regions on taking root, daily moving, migrating

## Some results on daily urban mobility

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### Survey

- Object: every trips in a given day
- Autumn 2003, winter 2004 in Tuscany, Apulia, Sicily
- 1820 people interviewed
- Study restricted to two age classes: 30-40 and 55-65 years old residents
- Sample stratified by gender, age class, region and habitat (urban, rural)
- About 7.600 trips observed in a day
- Measured variables: the leaving time, the reason, the destination, the mean of transportation, the distance, the duration, group
- Individual characteristics: gender, age, professional status, educational level, residence, household variables

#### Average number of daily trips

Sex	Generation	Apulia	Sicily	Tuscany	Total
F	39-48	3.09	3.56	3.11	3.22
	64-73	3.99	4.59	4.48	4.38
	Total	3.65	4.20	3.82	3.88
M	39-48	4.02	4.44	4.34	4.28
	64-73	4.65	4.63	4.81	4.71
	Total	4.38	4.55	4.60	4.52
Total		4.04	4.38	4.21	4.21

#### Average covered distance in a day

Sex	Generation	Apulia	Sicily	Tuscany	Total
F	39-48	27.88	13.74	21.39	21.00
	64-73	31.65	39.52	28.26	32.64
	Total	30.23	29.64	24.94	27.67
M	39-48	33.25	24.17	33.02	30.71
	64-73	60.56	46.24	60.30	56.47
	Total	49.04	36.84	48.09	45.28
Total		40.24	33.30	36.65	36.72

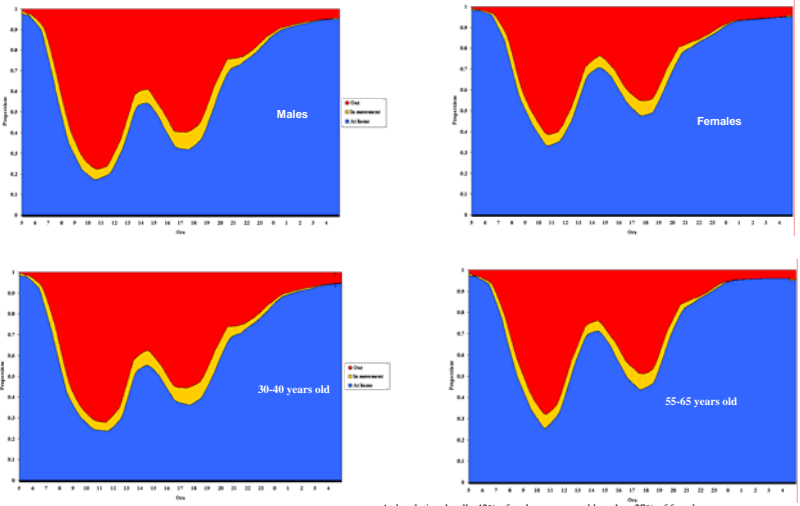
#### Average time in movement per day

Sex	Generation	Apulia	Sicily	Tuscany	Total
F	39-48	41.21	43.43	39.43	40.86
	64-73	54.31	63.77	56.64	58.12
	Total	49.37	55.98	48.32	50.75
M	39-48	56.68	59.80	66.11	61.79
	64-73	77.70	67.73	80.90	76.30
	Total	68.84	64.35	74.28	70.00
Total		59.72	60.23	61.46	60.64

Differences between genders and cohorts as well as the very low variability in terms of time spent in movement close to 1 hour average per day are confirmed. Instead the three analyzed variables show regional differences apparently in contrast. This reveals different social, urban and infrastructural systems in the three regions. In the same time it suggests to analyze all three variables.

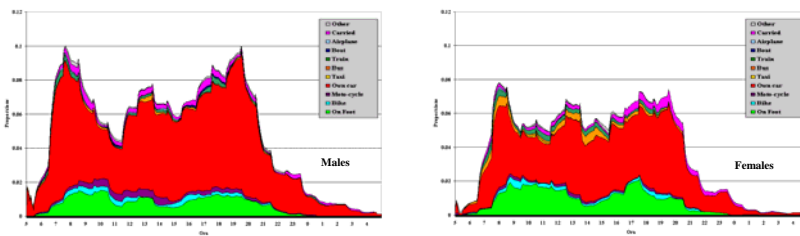
- Men's mobility is much greater than women's
- Men produce, women reproduce
- Men move more likely to work and save time for leisure and friends
- Women supply household and accompany (children)
- Differences increase along with age
- At 55-65 women make 32% fewer moves than men. Men substitute women in the family network care, for carrying relatives and spend a lot of time in leisure
- At the younger age class difference between gender are less clear than at the older age class.
- We can observe an "imprisonment" of the women into the house and for houseworks
- Age or generation effect?

#### Proportion of interviewed out, in movement, at home by day time



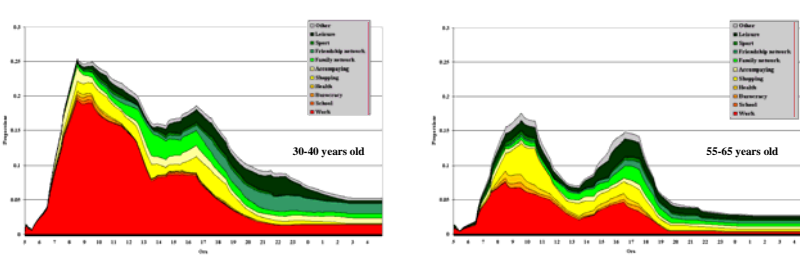
- Most of the time is spent home
- Returning back home for lunch is usual
- At lunch time hardly 42% of males are out and less than 27% of females
- At 11:02 a.m. (time of maximum use of external space) 70% of men are out, 14% are moving and 16% are home.
- For women: 34%, 5%, 61%

#### Proportion of interviewed by the mean of transportation by day time



- 68% of moves are made in his own car
- Plus moves by motorcycle, it reaches 70%.
- Plus moves in others' car, it sums 73% by private vehicle, (3,06 average per person/day)
- Women have moving behaviors slightly more ecologically correct. They walk more and they keep bus more. They, also, are more often passengers
- Men, except for hiking, prefer motorcycle and overall his own car

#### Proportion of interviewed by motivation by day time



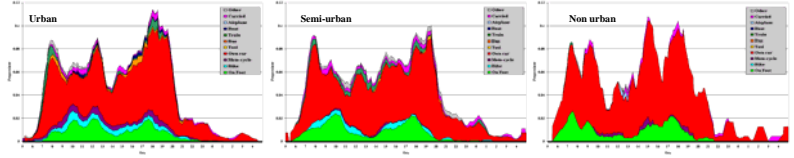
#### Average number of daily trips by mean of transportation (Tuscany)

Sex	Generation	On foot	Bike	Moto-cycle	Own car	Taxi	Bus	Train	Boat	Carried	Air plane	Other	Total
F	39-48	1.06	0.32	0.04	1.39	0.00	0.12	0.03	0.01	0.09	0.00	0.05	3.11
	64-73	0.76	0.12	0.24	3.13	0.00	0.04	0.04	0.00	0.14	0.00	0.01	4.48
	Total	0.91	0.22	0.14	2.29	0.00	0.08	0.04	0.00	0.11	0.00	0.03	3.82
M	39-48	0.79	0.26	0.32	2.77	0.00	0.03	0.02	0.02	0.08	0.01	0.04	4.34
	64-73	0.54	0.11	0.30	3.43	0.00	0.00	0.06	0.01	0.23	0.01	0.11	4.81
	Total	0.65	0.17	0.31	3.43	0.00	0.01	0.04	0.01	0.17	0.01	0.08	4.60
Total		0.78	0.19	0.23	2.72	0.00	0.05	0.04	0.01	0.14	0.00	0.05	4.21

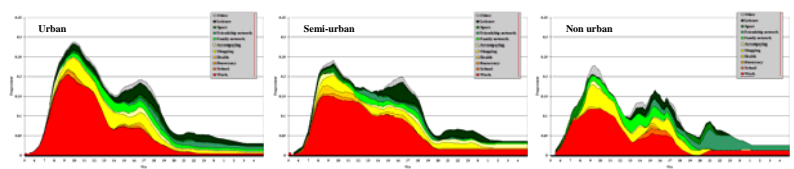
#### Average number of daily trips by motivation (Tuscany)

Sex	Shopping	Work	School	Burocracy	Health	Sport	Leisure	Family network	Friendship Network	Accompanying	Other	Total	
F	39-48	0.29	0.29	0.01	0.05	0.06	0.03	0.25	0.19	0.09	0.04	0.19	3.11
	64-73	0.28	0.82	0.04	0.04	0.05	0.06	0.28	0.30	0.13	0.35	0.10	4.48
	Total	0.29	0.56	0.03	0.04	0.05	0.05	0.26	0.25	0.11	0.20	0.14	3.82
M	39-48	0.48	0.64	0.01	0.06	0.06	0.09	0.56	0.22	0.17	0.10	0.13	4.34
	64-73	0.49	1.38	0.02	0.06	0.03	0.10	0.33	0.19	0.22	0.15	0.07	4.81
	Total	0.48	1.05	0.01	0.06	0.04	0.09	0.43	0.20	0.19	0.13	0.09	4.60
Total	0.54	0.81	0.02	0.05	0.05	0.07	0.35	0.23	0.15	0.17	0.12	4.21	

#### Proportion of interviewed by the mean of transportation by habitat by day time



#### Proportion of interviewed by motivation by habitat by day time



#### Multi-level model (pilot survey)

- Log of distance covered and number of trips were modelled as functions of some characteristics that were collected regarding each individual: sex and age
- Log of distance covered: Normal model
- Number of trips: Poisson model

Coefficient	Log. covered distance	Number of trips
Sex (1=Female)	Estimate	Pr(<math>P</math>)
Sex (1=Female)	-0.4601	0.0000
13-29	0.3364	0.0000
30-44	0.2542	0.0000
45-59	0.6119	0.2948
60-74	0.3100	0.1223
>74	-1.2397	0.0223
Constant	2.1362	0.0000
Y variance at level 1	1.1193	
Y variance at level 2	0.6677	
$\sigma^2$		0.0342

Females cover 37% less space than males per day  
 There is no significant difference in terms of number of trips