Breaking into bicycle theft: Insights from Montreal, Canada

Dea van Lierop, Michael Grimsrud, Ahmed El-Geneidy







AN EXAMINATION OF BICYCLE THEFT IN MONTREAL

Results from the 2012 Montreal Bicycle Theft Survey

Over 50% of cyclists in Montreal, Quebec have been victims of bicycle theft at least once. The data from the 2,039 Greater Montreal residents who participated in the 2012 Montreal Bicycle Theft Survey has been compiled and analyzed in order to understand the state of bicycle theft and develop recommendations on how to decrease instances of theft and improve recovery rates in the

STUDY PURPOSE

To better understand bicycle theft in Montreal and develop recommendations on how to decrease instances of theft in



hoto credit: courtesy of author

RELEVANCE OF THE RESEARCH

This study contributes to the existing literature by:

- Providing a narrative on bicycle theft in Montreal
- Evaluating cyclists' opinions about parking security and availability

SURVEY DATA

- Online from May 9th June 12th, 2012
- 2039 responses
- 1922 usable responses

The respondents' ages range from 18 to 85, with an average of 37 years. 42% are female, and almost all survey participants (98.7% have made at least one commuting trip by bicycle in Montreal during the last year.

	Average	Max.	Min.
Age	36.9 yrs	85	18
Distance between home location and theft location (most recent thefts per victim occurring in last 5 years	3.2 km	29.5 km	0 km
	Average (%)		
Gender (female)	42%		
Have had at least one bicycle stolen	51%		
Own a commuter bicycle	87%		
Year round cyclists	16%		

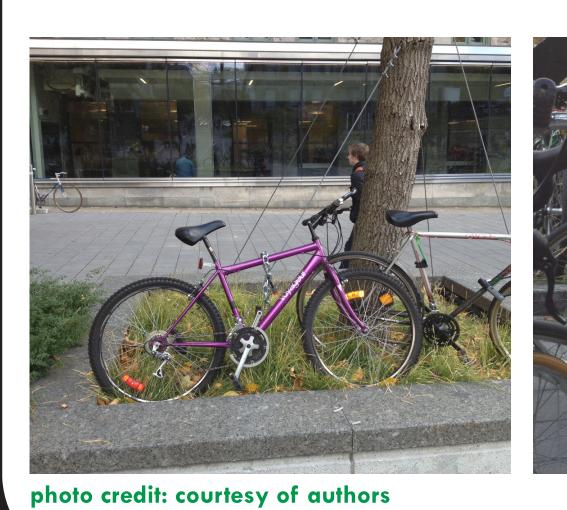
: WHO

Statistical modeling is used to understand how individual's habits, choices, and socio-demographic status are related to the likeliness of having been a victim of a bicycle theft.

Parameters		Coefficient	t-stat	Odds Ratio	
Bicycle:	Used bicycle	227	.761	.797	
	Value between \$500-\$1500	-2.491 **	85.065	.083	
	Value more than \$1500	-2.251 **	21.816	.105	
Registration:	Chose not to register	816*	4.028	.442	
	Did not know about registering	.142	.145	1.152	
Lock:	U-lock	-5.385 **	107.765	.005	
	Cable lock	-2.122**	18.931	.120	
	Chain lock	-2.579 **	21.790	.076	
	Bicycle kept inside	-2.243 **	39.718	.106	
	Other locks	-3.974 **	36.080	.019	
Exposure:	Year round cyclist	.643*	4.275	1.903	
	Commuting for 4-6 yrs	.070	.051	1.072	
	Commuting for 7-10 yrs	.534	2.006	1.706	
	Commuting for more than 10 yrs	.662*	5.219	1.939	
Socio-demographic:	Female	506*	4.556	.603	
	Age	.000	.000	1.000	
	Constant	4.761	39.216	116.883	
All values in Canadian Dollars		Dependent variable: stolen bicycle *95% significance **99% significance			

The model shows that bicycle value, awareness about registration, Li Theft rates are most prominent in the lock type, exposure, and gender are significant factors in determining a cyclist's likeliness to have been a victim of bicycle theft.

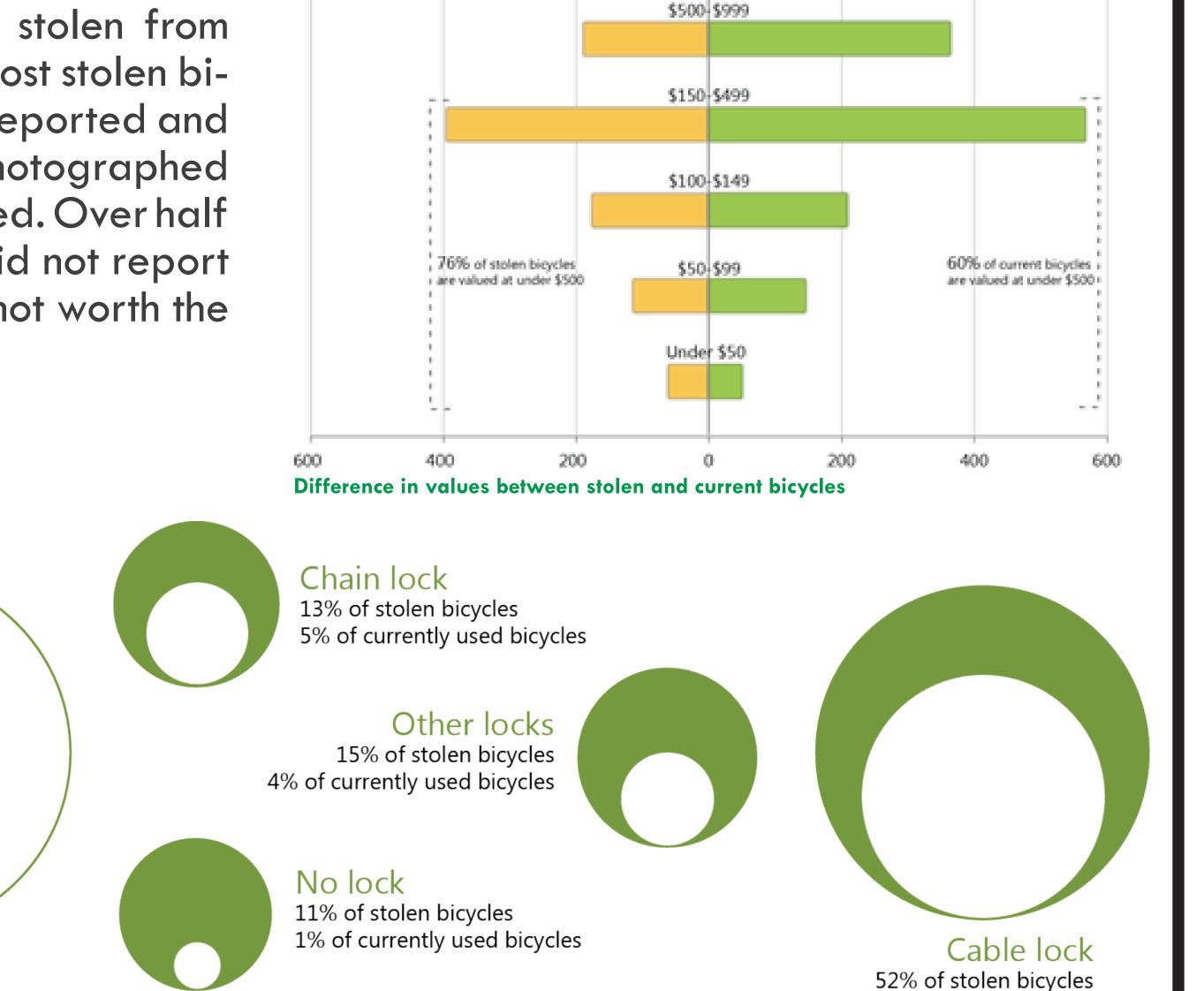
cle was stolen.





WHAT

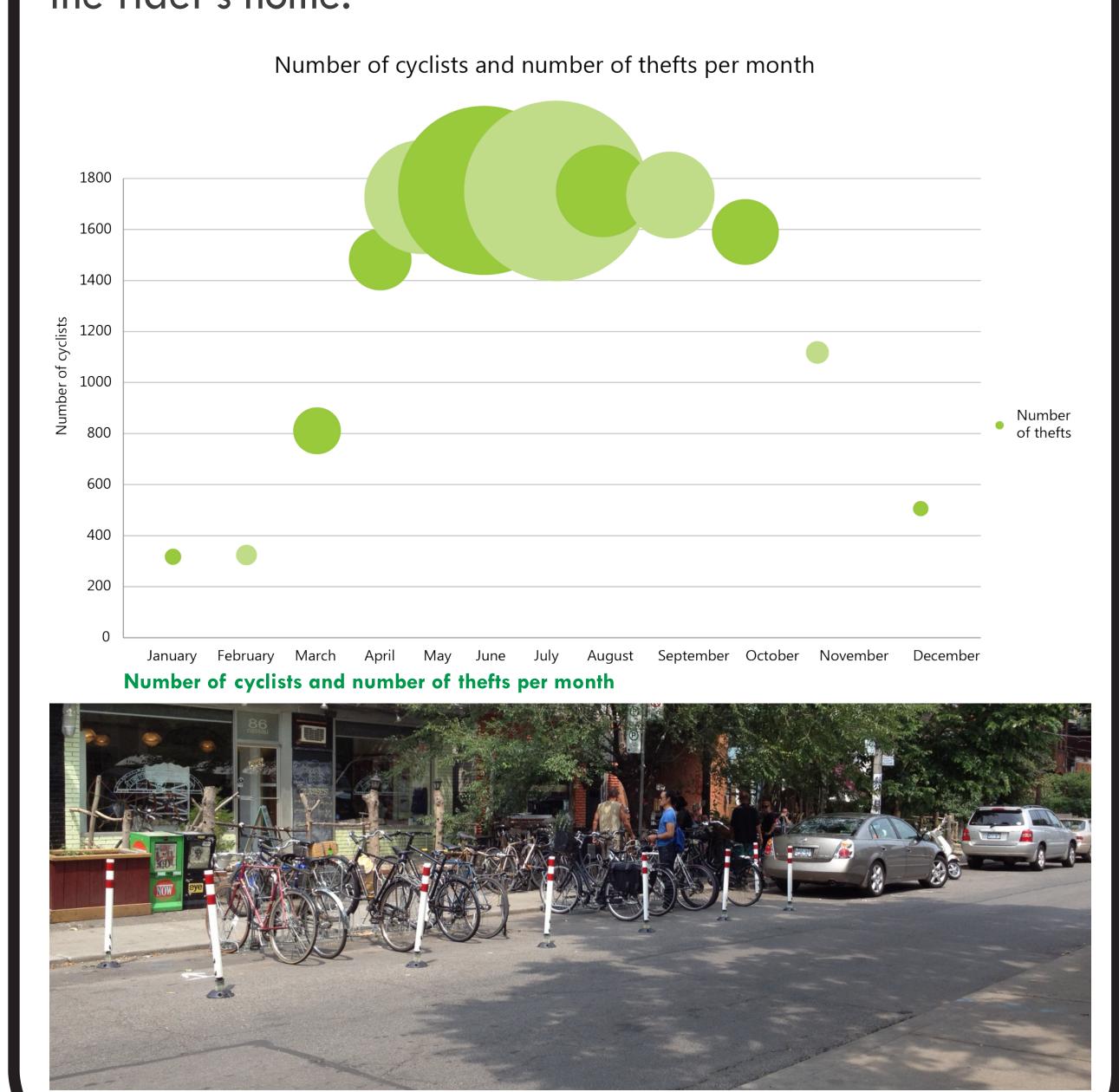
Nearly 20% of cyclists have been victims three times or more. The most frequently stolen bicycles are valued at under \$500. More than a quarter of cyclists had at least one part stolen from their bicycle. Most stolen bicycles are not reported and tend to be unphotographed and unregistered. Over half of those who did not report thought it was not worth the



Thefts June 2007 - May 2012

: WHEN

Theft occurs most frequently in months when more bicycles | PUBLIC AGENCIES are being used. Most thefts occur during the day, when bicycles are likely to be parked at a destination other than the rider's home.



Cyclists are most satisfied with the security and

availibility of parking near work and at school.

Rack 6 was ranked as the safest bicycle

Racks 2 and 3 are also ranked as being "some-

parking facility, and Rack 4 the least safe.

Parking

what safe" and "very safe".

:> RECOMMENDED ACTIONS

Add bicycle parking capacity

 Primarily near metro stations and high demand residential areas. Locations should be highly visible and well-lit.

: Improve bicycle parking security

- Racks should be secured to the ground and feature thick metal bars at an appropriate height for easy effectual locking.
- Racks that do not meet these criteria should be replaced with better racks.
- Racksthat completely enclose bicycles are preferred, but might be prohibitively expensive as few bicyclists will pay.

Communicate proper locking technique

 New and existing bicycle racks should be fitted with prominent stickers with clear pictures showing proper locking technique.

Improve transparency of bicycle theft investigation procedures Many people are not confident that reporting theft is worthwhile.

Provide bicycle theft prevention, stolen bicycle recovery, and registration education

 Offer workshops or audio-visual materials for schools and other organizations.

CYCLISTS

Lock bicycles always

 Many bicycles and bicycle parts are stolen after only brief periods left unattended.



Lock bicycles well

- •Ensure that frames, as well as easily removable parts, are secured.
- •Use locks that are difficult to break, such as thick U-locks.

Prepare for possible theft

Register and photogtaph your bicycle to help with the recovery

Report theft

Reporting theft to police improves chance of recovery.

Acknowledgement

distributing and filling out the Montreal Bicycle Theft Survey. The authors would also like to thank the Natural Science and Engineering Research Council of Canada (NSERC) for their





Stolen bicycle parts are most often simply pulled off; however, victims generally do not know the means by which their entire bicy-



include the Lower Plateau, which features the highest count of bicycle thefts, as well as downtown, with its high rate These maps represent bicycle theft on the Island of Montreal within the five-year period between June 2007 and May 2012 as well as the areas that survey participants identified as being known for having high instances

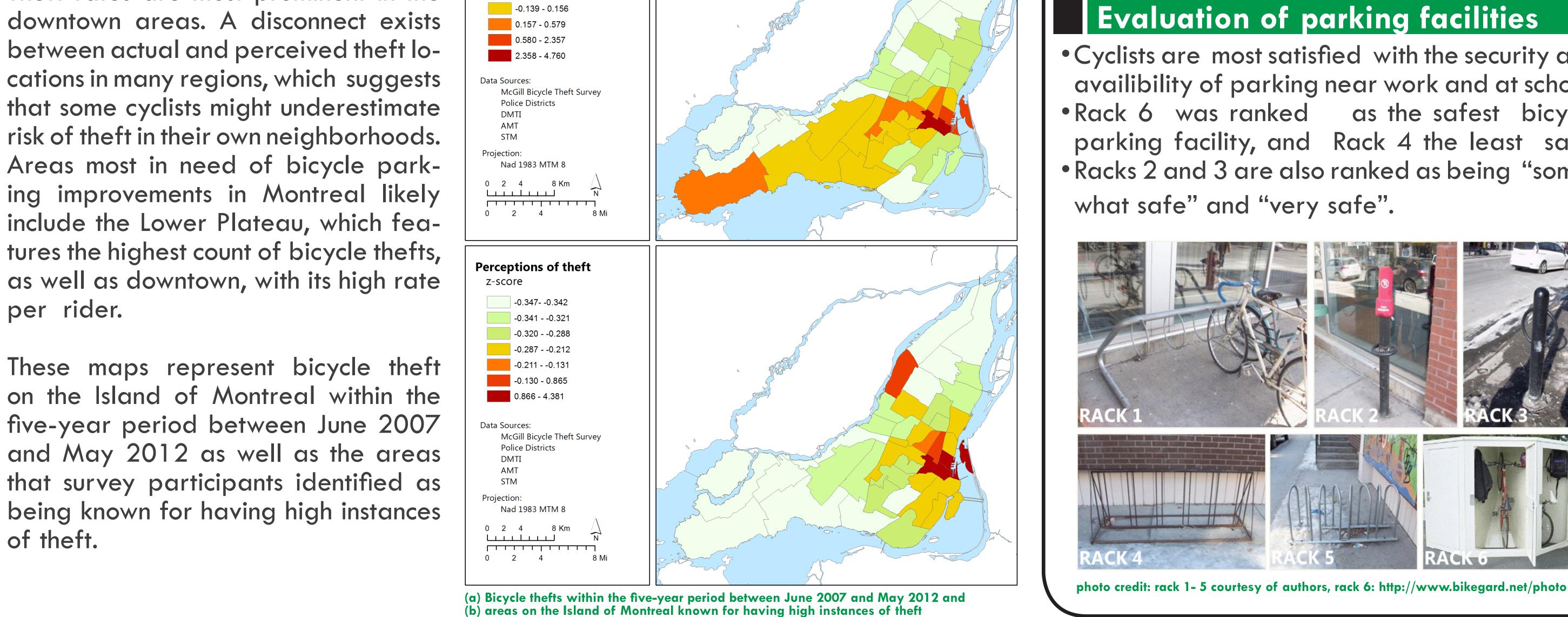
downtown areas. A disconnect exists

between actual and perceived theft lo-

cations in many regions, which suggests

that some cyclists might underestimate

risk of theft in their own neighborhoods.



28% of currently used bicycles