



## MEMORANDUM

**To:** CMAP Freight Committee

**From:** CMAP Staff

**Date:** November 17, 2014

**Re:** Detailed review of freight items in 2014 Municipal Survey

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To inform agency work and track the progress of GO TO 2040 implementation, CMAP conducts a biennial survey of municipal governments. CMAP's 2014 Municipal Survey included four topics related to freight: freight-related challenges, regulation of overnight deliveries, regulation of on-street truck parking, and other freight-related initiatives. These issues are important to the efficient operation of the freight system, as well as the transportation system more generally, and are subject to regulation by local governments. The intent of including these questions in the 2014 Municipal Survey is to gain a better understanding of how local governments in northeastern Illinois view and interact with the freight system.

An initial summary of the results for these four freight-related questions was presented to the CMAP Freight Committee in September 2014. Committee members expressed an interest in receiving a more detailed analysis, while acknowledging the need to protect the anonymity of individual respondents. This memorandum provides a more detailed review of the survey results weighted by **population**, organized by **municipal typologies**, and organized by **commercial and industrial land uses**.

Compared to the initial summary presented in September, the more detailed review confirms that municipalities view some freight challenges (e.g., pavement conditions) as more pressing than others (e.g., lack of communication with local businesses), and that most municipalities employ the same approaches to the regulation of overnight deliveries and on-street parking for heavy trucks.

However, a few differences do emerge when analyzing the results in more detail:

- Weighting by population
  - Low vertical clearances, illegal overnight deliveries, and truck crashes are greater concerns than the original, unweighted results would suggest.

- Site-by-site regulation of overnight deliveries is more common than the unweighted results would suggest.
- The prohibition of truck parking on some public roads is more common than the unweighted results would suggest.
- By municipal typology
  - Core and satellite cities are more likely to rate freight issues as “more of a challenge” and less likely to rate issues as “not a challenge” compared to middle tier and exurban or expanding municipalities.
  - In particular, inadequate on-street loading zones, inadequate off-street parking, and delivery impacts during peak periods appear to be challenges for core and satellite cities.
- By commercial and industrial land uses
  - Municipalities with very high shares of commercial and industrial land uses tend to rate more issues as “more of a challenge” than communities with high, medium, or low shares of those land uses.
  - Municipalities with low shares of commercial and industrial land uses more often rated issues as “not a challenge”.
  - Bridge conditions and truck crashes appear to be particularly salient for communities with very high shares of commercial and industrial land.
  - Municipalities with low shares of commercial or industrial land uses more often report that they do not regulate overnight deliveries.

These detailed results do not analyze the narrative responses to the open-ended freight question in the 2014 Municipal Survey. The qualitative nature of those responses and small sample size do not lend these responses to weighting by population or classification by type of municipality.

The remainder of this document discusses the detailed results, including methodologies for weighting survey responses and classifying communities.

## **Weighted by population**

Using Census 2010 data, staff weighted each municipality’s survey responses by its share of the regional population. For example, if a municipality accounts for 3 percent of the seven-county regional population, then its response for a given question would be recorded as 0.03 rather than 1.0 (the original, unweighted count). When the weighted counts are totaled, the sum reflects the share of the region’s population covered by respondents to the 2014 Municipal Survey – generally around 75 percent of the region’s population.<sup>1</sup>

## **Challenges**

The 2014 Municipal Survey asked respondents to rate fifteen different issues as “more of a challenge”, “somewhat of a challenge”, or “not a challenge”. All but two of the various issues were cited as “somewhat of a challenge” or “more of a challenge” by the weighted survey

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<sup>1</sup> Note that the percentages reported in the following discussion refer to the share of respondents, not the region’s population.

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responses. In particular, pavement conditions were cited by a combined 93 percent and inadequate turning radii by a combined 86 percent. Four items – inadequate off-street parking, inadequate on-street loading zones, inadequate turning radii, and impact on bridge conditions – were cited as “more of a challenge” by more than 50 percent of weighted responses. At the other end of the spectrum, ease of access to highways and lack of communication with local businesses were identified as “not a challenge” by over 55 percent of the weighted responses. See Figure 1 on next page for more detail.

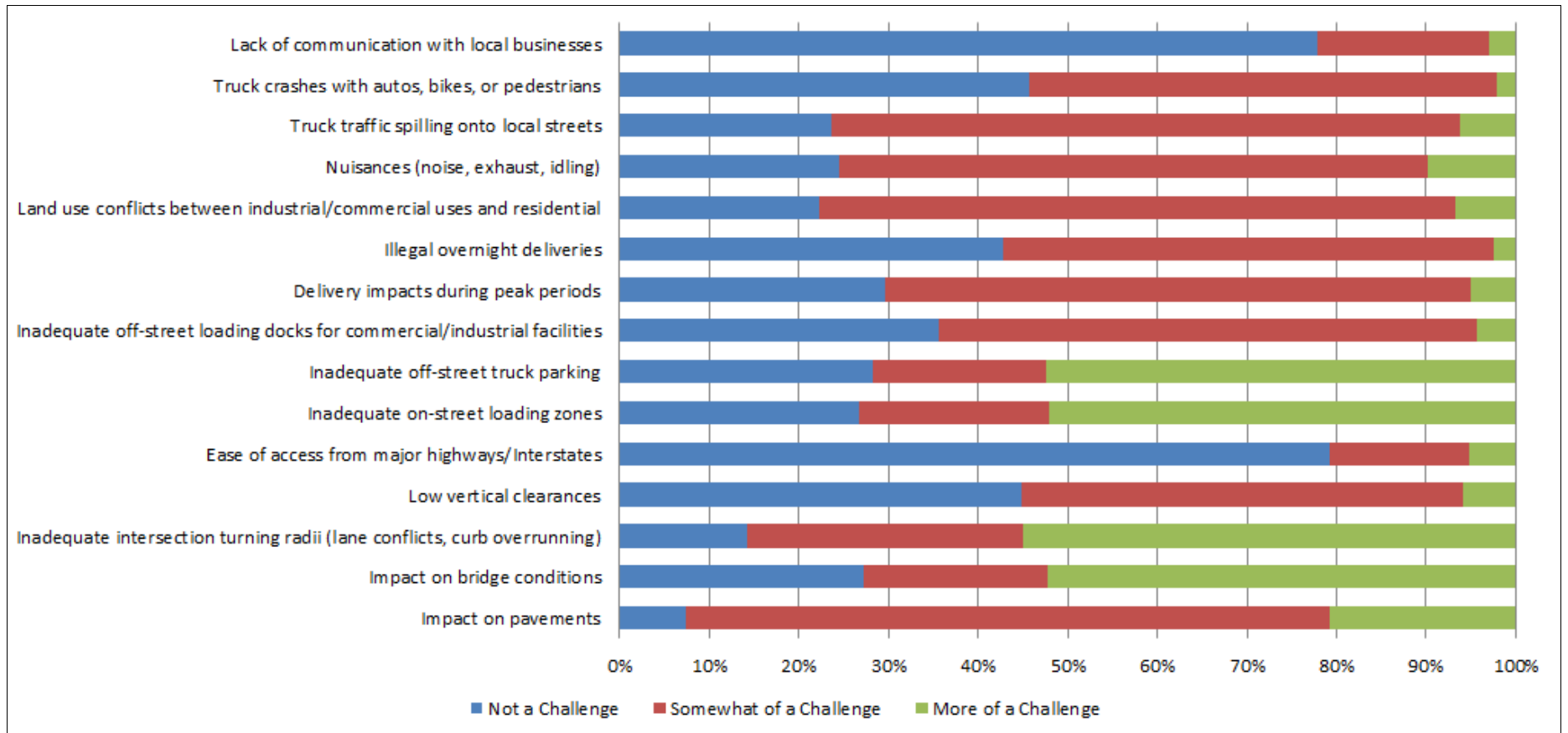
Compared to the original summary presented in September, weighting by population indicates that low vertical clearances, illegal overnight deliveries, and truck crashes are greater concerns than they originally appeared. For all three items, the share of respondents identifying each as “somewhat of a challenge” or “more of a challenge” grew by more than 35 percentage points compared to the unweighted results.

In fact, nearly all items were identified to be greater concerns in the weighted results, with the average share of respondents identifying an issue a “somewhat of a challenge” or “more of a challenge” increasing by 20 percentage points. Only two items were identified to be less of a concern in the weighted results (ease of access to major highways and lack of communication with local businesses) and only one item (impact on pavements) was relatively unchanged by the weighting process. The following table summarizes the change in percentage of respondents identifying each item as “somewhat of a challenge” or “more of a challenge”.

**Table 1. Percent of respondents rating issues as “somewhat of a challenge” or “more of a challenge”, weighted by population vs. unweighted results**

	Weighted by Population	Original, Unweighted	Percentage-Point Change
Low vertical clearances	55%	15%	+40
Illegal overnight deliveries	57%	20%	+37
Truck crashes with autos, bikes, or pedestrians	54%	18%	+36
Inadequate off-street loading docks for commercial/industrial facilities	64%	39%	+26
Impact on bridge conditions	73%	48%	+25
Delivery impacts during peak periods	70%	46%	+25
Inadequate on-street loading zones	73%	49%	+24
Land use conflicts between industrial/commercial uses and residential	78%	54%	+24
Truck traffic spilling onto local streets	76%	54%	+22
Inadequate off-street truck parking	72%	50%	+22
Nuisances (noise, exhaust, idling)	76%	57%	+19
Inadequate intersection turning radii (lane conflicts, curb overrunning)	86%	69%	+17
Impact on pavements	93%	88%	+05
Ease of access from major highways/Interstates	21%	35%	-14
Lack of communication with local businesses	22%	36%	-14

Figure 1. Summary of 2014 Municipal Survey results for freight challenges, weighted by population



### Overnight delivery

Nearly half of weighted responses indicated that municipalities regulate overnight delivery site-by-site as part of the development process. Eighteen percent only regulate nuisances associated with overnight deliveries, and 16 percent have no regulations at all. The remaining responses are split among complete bans, prohibitions in limited areas, and other approaches.

**Table 2. Regulation of overnight deliveries, weighted by population**

	<b>Weighted Counts</b>	<b>Weighted Percentages</b>
Overnight deliveries are prohibited everywhere	0.04	6%
Prohibited in some areas or zones	0.08	11%
Regulated site-by-site through the development process	0.37	49%
Only nuisances (e.g., idling, noise, exhaust) are regulated	0.13	18%
No regulations	0.12	16%
Other	0.01	1%
<b>Total Responses</b>	<b>0.76</b>	<b>100%</b>

Compared to the original results, the share of respondents indicating site-by-site regulation rose substantially, from 13 percent to 49 percent. The share indicating the regulation of nuisances fell from 27 percent to 18 percent, and the share indicating no regulations fell from 35 percent to 16 percent. The remaining shares each shifted by less than 5 percentage points.

### On-street parking

Approximately two-thirds of weighted responses indicated that municipalities prohibit on-street heavy truck parking on some public roads. Eighteen percent of weighted responses indicate complete bans of heavy truck parking on public roads.

**Table 3. Regulation of on-street heavy truck parking, weighted by population**

	<b>Weighted Counts</b>	<b>Weighted Percentages</b>
Heavy truck parking is prohibited on all public roads	0.13	18%
Heavy truck parking is prohibited on some public roads	0.48	64%
Only nuisances (e.g., idling, noise, exhaust) are regulated	0.03	3%
Heavy trucks follow same parking regulations as passenger vehicles	0.05	6%
No regulations	0.02	2%
Other (please describe)	0.05	6%
<b>Total responses</b>	<b>0.74</b>	<b>100%</b>

Compared to the original results, the share of respondents identifying the prohibition of truck parking on some public roads rose from 33 percent to a weighted 64 percent. In contrast, all

other shares fell – notably, the share of respondents indicating complete parking bans fell from an original 33 percent of respondents to a weighted 18 percent.

### By municipal typology

To identify municipal typologies, staff categorized the region’s municipalities using a number of criteria, but most dependent on the median age of the housing stock, population and municipal acreage growth since 2000, and access to unincorporated land. The result is three categories: core and satellite cities (which include inner ring cities), middle tier municipalities, and exurban or expanding municipalities. This classification is based on the municipal typologies used in a prior CMAP report, [Fiscal and Economic Impact Analysis of Local Development Decisions](#), with the exception that the central city category was combined with the inner ring and satellite cities category.

The following table summarizes the number of municipalities in the region classified into each category and compares these numbers to the regional total.

**Table 4. Classification of municipalities by type**

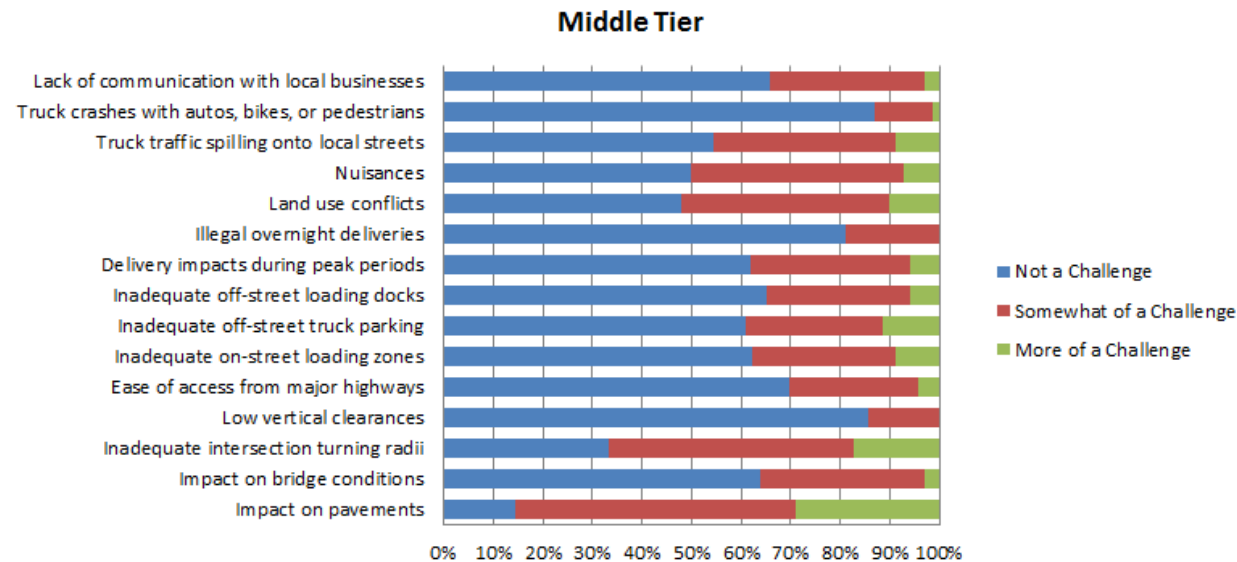
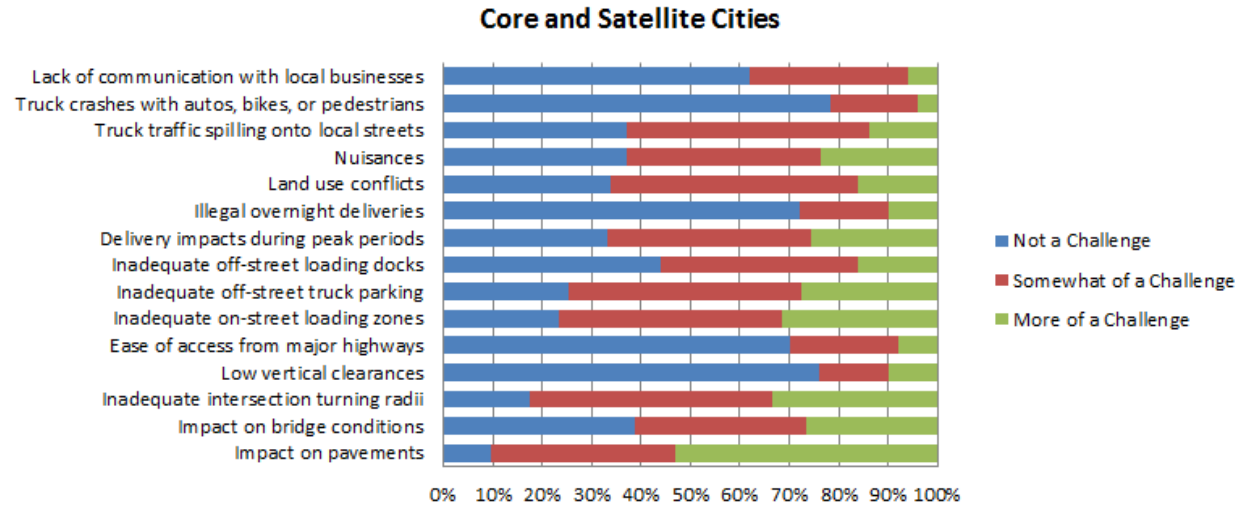
	<b>Number of Survey Respondents</b>	<b>Total Number of Municipalities</b>	<b>Percent of Total</b>
Core and Satellite Cities	52	83	63%
Middle Tier	74	114	65%
Exurban or Expanding	53	87	61%
<b>Total</b>	<b>179</b>	<b>284</b>	<b>63%</b>

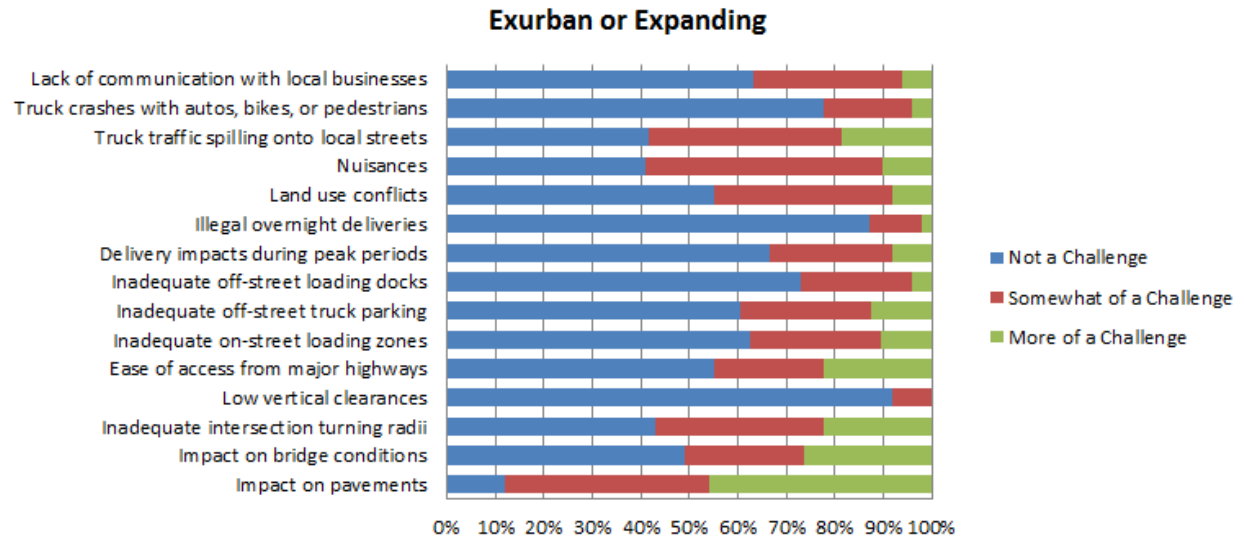
### Challenges

In general, all municipalities tend to be concerned with the same freight challenges (e.g., pavement conditions) and unconcerned about the same freight challenges (e.g., lack of communication with local businesses), but some noteworthy differences arise. Broadly speaking, core and satellite cities are more likely to rate an issue as “more of a challenge” and less likely to rate an issue as “not a challenge”, compared to middle tier and exurban or expanding communities.

In particular, inadequate on-street loading zones, inadequate off-street parking, and delivery impacts during peak periods appear to be challenges for core and satellite cities. Between two-thirds and three-quarters of core and satellite cities rate these issues as “more of a challenge” or “somewhat of a challenge”, compared to only 30-40 percent of middle tier and exurban or expanding communities.

Figure 2. Summary of 2014 Municipal Survey results for freight challenges, by municipal typology







### Overnight delivery

Respondents indicate a range of regulations for overnight deliveries across the three municipal typologies. While many municipalities choose not to regulate overnight deliveries, this approach appears to be particularly common among exurban or expanding municipalities. In fact, just over half of exurban or expanding municipalities reported no regulations, the highest share of any response for any municipal typology. Again, many other municipalities choose to regulate only nuisances associated with overnight deliveries, but those in the middle tier most frequently reported that approach. Core and satellite cities prohibit overnight deliveries in some areas more often than middle tier or exurban and expanding cities.

**Table 5. Regulation of overnight deliveries by municipal typology**

	Core and Satellite Cities		Middle Tier		Exurban or Expanding	
Prohibited everywhere	3	6%	6	9%	3	6%
Prohibited in some areas or zones	12	24%	7	10%	8	17%
Regulated site-by-site through the development process	7	14%	10	14%	5	11%
Only nuisances are regulated	11	22%	27	39%	7	15%
No regulations	14	27%	20	29%	24	51%
Other	4	8%	0	0%	0	0%
<b>Total</b>	<b>51</b>	<b>100%</b>	<b>70</b>	<b>100%</b>	<b>47</b>	<b>100%</b>

### On-street parking

There is relatively little variation in the regulation of on-street parking by municipal typology. For all three categories, the two most frequently cited approaches are prohibition of parking on all public roads or on some public roads. These two options are particularly common among core and satellite cities, especially the complete prohibition heavy truck parking on public roads. On a percentage basis, middle tier and exurban or expanding municipalities have nearly identical approaches to the regulation of on-street parking for heavy trucks.

**Table 6. Regulation of on-street heavy truck parking by municipal typology**

	Core and Satellite Cities		Middle Tier		Exurban or Expanding	
Heavy truck parking is prohibited on all public roads	20	40%	21	31%	13	29%
Heavy truck parking is prohibited on some public roads	19	38%	19	28%	15	33%
Only nuisances are regulated	1	2%	5	7%	3	7%

Heavy trucks follow same parking regulations as passenger vehicles	3	6%	11	16%	7	16%
No regulations	0	0%	5	7%	3	7%
Other	7	14%	6	9%	4	9%
<b>Total</b>	<b>50</b>	<b>100%</b>	<b>67</b>	<b>100%</b>	<b>45</b>	<b>100%</b>

## By industrial and commercial land uses

Using data from CMAP’s 2010 Land Use Inventory (LUI), staff categorized the region’s municipalities by percentage of commercial and industrial land area within incorporated boundaries. This calculation includes active commercial and industrial parcels, along with commercial and industrial parcels that are vacant and under construction. The LUI defines commercial properties as shopping malls, regional and community retail centers, single large-site retail, urban mix, urban mix with residential component, office, cultural and entertainment, and hotel/motel. CMAP’s LUI defines industrial properties as mineral extraction, general industrial less than 100,000 square feet, manufacturing/processing greater than or equal to 100,000 square feet, warehousing/distribution greater than or equal to 100,000 square feet, flex or indeterminate greater than or equal to 100,000 square feet, and storage.

Municipalities were classified into four categories based on the percentage of land devoted to commercial and industrial uses: low, medium, high, and very high. The following table summarizes the thresholds defining each category and the number of municipalities in the region classified into each category.

**Table 7. Classification of municipalities by industrial and commercial land uses**

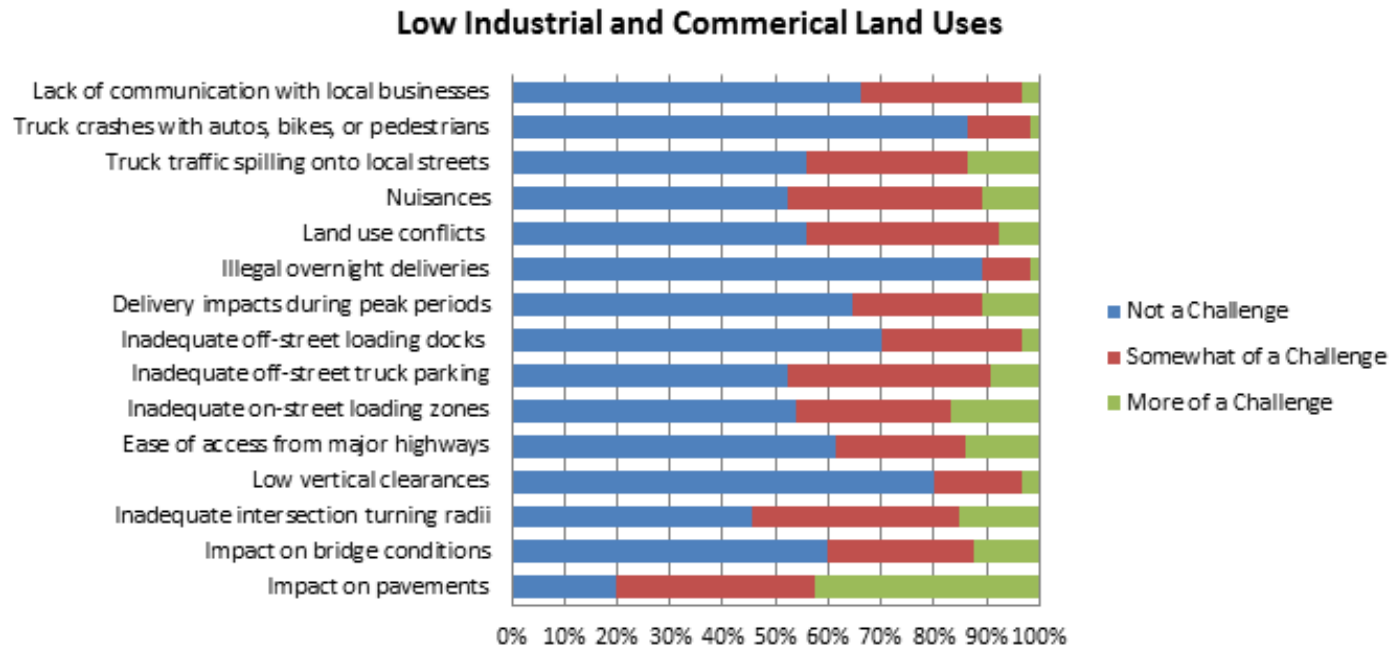
	Threshold (Percentage of Land in Industrial and Commercial Uses)	Number of Survey Respondents	Total Number of Municipalities	Percent of Total
Low	< 10%	73	122	60%
Medium	10%-19.99%	70	104	67%
High	20%-29.99%	24	37	65%
Very High	>30%	12	21	57%
<b>Total</b>		<b>179</b>	<b>284</b>	<b>63%</b>

## Challenges

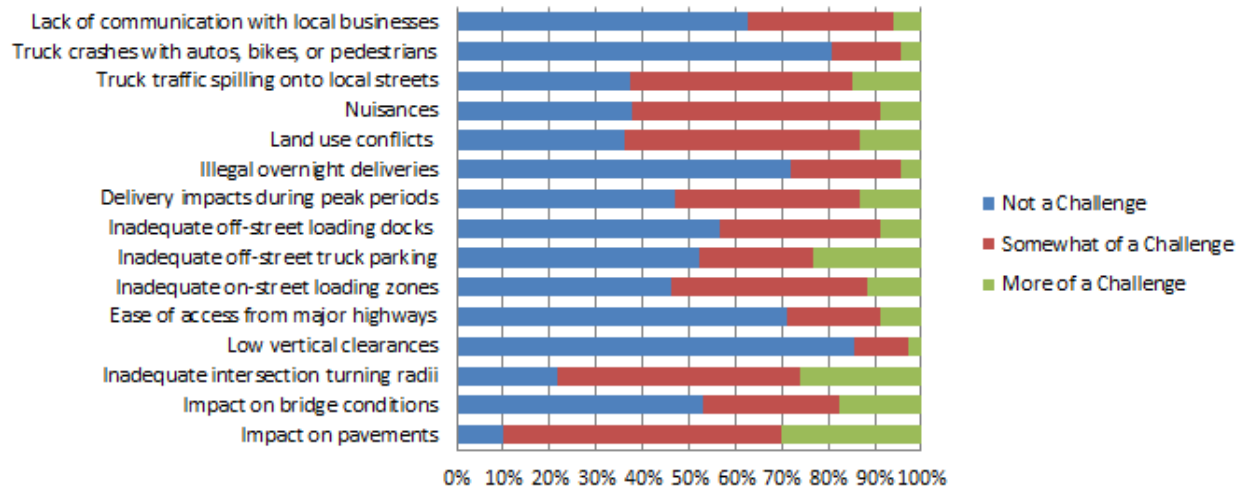
Broadly speaking, most respondents tend to identify similar issues as challenges regardless of municipal land uses, but some differences emerge. Municipalities with very high shares of commercial and industrial land uses tend to rate more issues as “more of a challenge” than other municipalities, followed by those with high, medium, and low shares of commercial and industrial land uses. Bridge conditions and truck crashes appear to be particularly salient for communities with very high shares of commercial and industrial land.

Municipalities with low shares of commercial and industrial land uses more often rated issues as “not a challenge”.

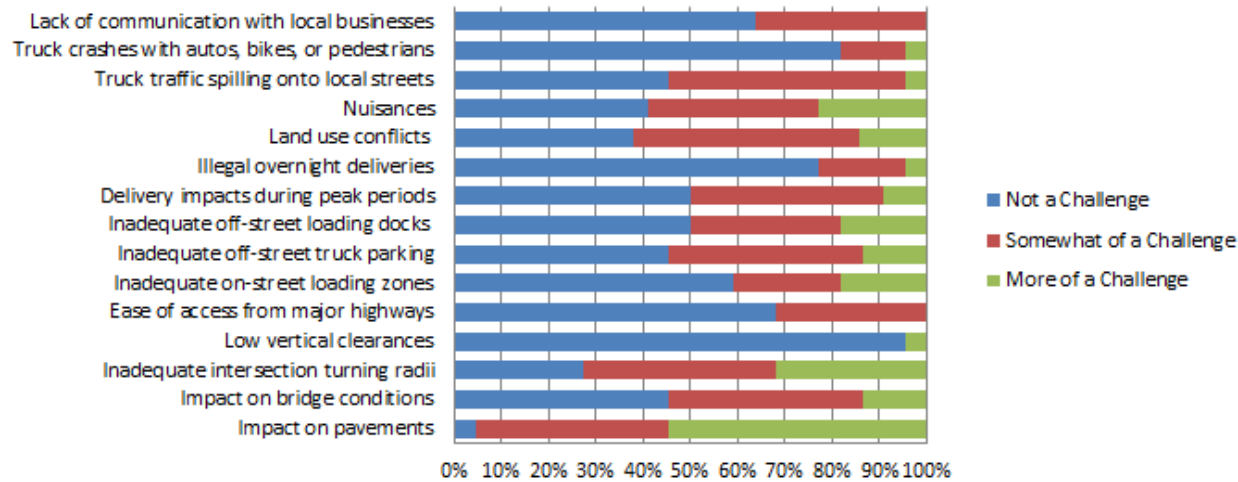
Figure 3. Summary of 2014 Municipal Survey results for freight challenges, by industrial and commercial land uses



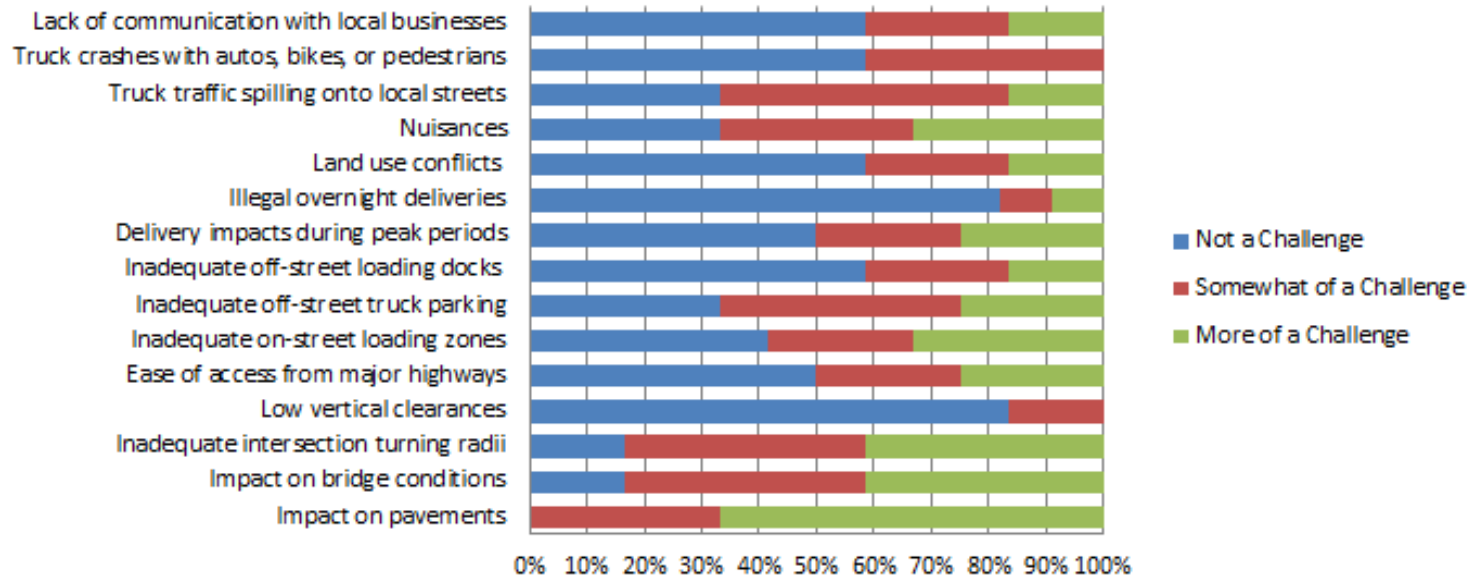
### Medium Industrial and Commercial Land Uses



### High Industrial and Commercial Land Uses



### Very High Industrial and Commercial Land Uses



### Overnight delivery

The survey results suggest that all municipalities employ a range of approaches to regulating overnight deliveries, regardless of land-use mix. Two approaches – no regulations and the regulation of nuisances – are commonly used by all types of municipalities, although those with low shares of commercial and industrial land uses are most likely not to regulate overnight deliveries. The prohibition of overnight deliveries in some areas is more commonly done in municipalities with medium or high shares of commercial and industrial land uses than in those with low or very high shares of such land uses.

**Table 8. Regulation of overnight deliveries by municipalities’ share of industrial and commercial land uses**

	Low		Medium		High		Very High	
Prohibited everywhere	6	9%	5	7%	0	0%	1	8%
Prohibited in some areas or zones	4	6%	15	22%	6	27%	2	17%
Regulated site-by-site through development process	9	14%	10	15%	0	0%	3	25%
Only nuisances are regulated	16	24%	18	26%	8	36%	3	25%
No regulations	28	42%	19	28%	8	36%	3	25%
Other	3	5%	1	1%	0	0%	0	0%
<b>Total</b>	<b>66</b>	<b>100%</b>	<b>68</b>	<b>100%</b>	<b>22</b>	<b>100%</b>	<b>12</b>	<b>100%</b>

### On-street parking

The survey results suggest that all municipalities employ a range of approaches to regulating on-street parking for heavy vehicles, regardless of land-use mix. The prohibition of heavy truck parking on all public roads and the prohibition of parking on some public roads are by far the most commonly cited approaches across all communities. Additionally, municipalities with low shares of commercial and industrial land uses more often regulate heavy truck parking in the same manner as they regulate passenger vehicle parking.

**Table 9. Regulation of on-street heavy truck parking by municipalities' share of industrial and commercial land uses**

	Low		Medium		High		Very High	
Heavy truck parking is prohibited on all public roads	19	30%	25	38%	6	27%	4	36%
Heavy truck parking is prohibited on some public roads	20	31%	21	32%	8	36%	4	36%
Only nuisances are regulated	3	5%	5	8%	1	5%	0	0%
Heavy trucks follow same parking regulations as passenger vehicles	12	19%	6	9%	2	9%	1	9%
No regulations	2	3%	3	5%	2	9%	1	9%
Other	8	13%	5	8%	3	14%	1	9%
<b>Total</b>	<b>64</b>	<b>100%</b>	<b>65</b>	<b>100%</b>	<b>22</b>	<b>100%</b>	<b>11</b>	<b>100%</b>