

Edmonton Region External Truck Commodity Survey



A Joint Alberta Transportation, City of Edmonton and Economic Development Edmonton Venture

Supported by:

- **Alberta Motor Transportation Association (AMTA)**
- **Alberta Capital Region Alliance (ACRA)**

Edmonton Region External Truck Commodity Survey

Key Participants

- Alberta Transportation
 - Jack Phelps
- Inspection Services Branch
 - Don Bobinec
 - Gordon Ellert
- City of Edmonton
 - Alan Brownlee
 - Brian Murphy
 - Dave Lirondelle
 - Nancy Corscadden

Edmonton Region External Truck Commodity Survey

Provide Data on Commodity and Vehicular Movements Entering & Leaving Edmonton Region

- Two Direction Weekday Survey
- Sept 26, 2001 - Nov 6, 2001 (Roadside Interviews)

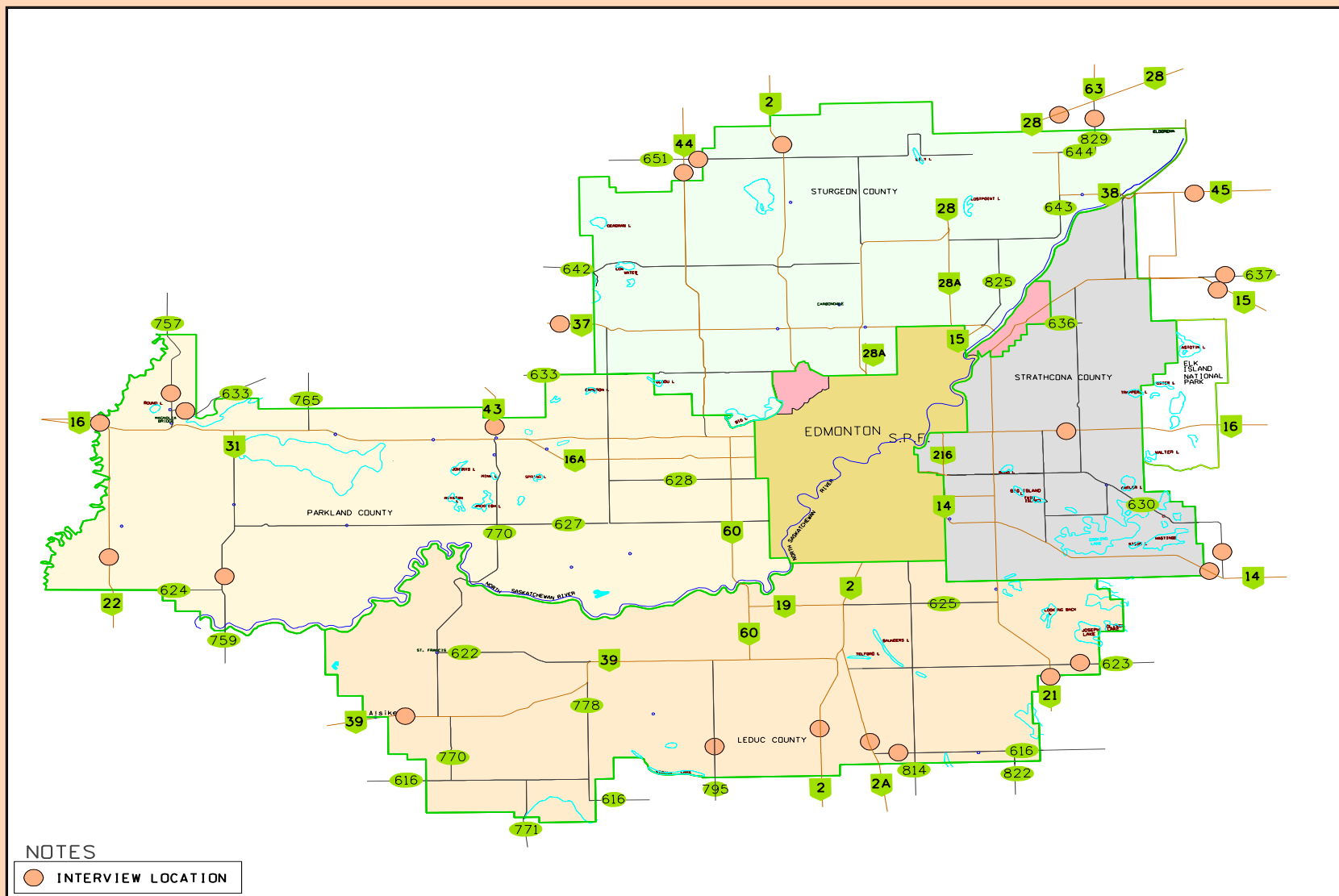
Edmonton Region External Truck Commodity Survey

Important to gather information for planning and design of transportation infrastructure:

- needs of the the trucking association
- economic viability of particular industries and businesses
- inter-modal transportation facilities

Edmonton Region External Truck Commodity Survey

Study Area & Interview Locations



NOTES

○ INTERVIEW LOCATION



Edmonton Region External Truck Commodity Survey

Survey Locations & Methodology

- Criteria of a minimum of 100 trucks per day
- 8:00 AM - 4:00 PM
- Roadside interviews restricted to 90 seconds to 2 minutes
- Shoulders or Vehicle Inspection Stations
- Traffic Control by Officers of Alberta Transportation Inspection Services Branch
- Vehicles with GVW of 4500 kg and over (trucks only)

Edmonton Region External Truck Commodity Survey

Survey Contents

- Survey Location
- Date of and Time of Interview
- Direction of Travel
- Truck Information - type, GVW, # of axles
- Occupancy
- Details of load being carried - Type, Quantity, Value
- Origin (Today's and Original)
- Destination (Today's and Final)
- Intermediate Stops in the Region
- Highways used or to be used
- Ownership

Edmonton Region External Truck Commodity Survey

External Commodity Flow Survey L A M O N T (site 4 & 16) Interview Sheet

Survey Location 3	Interviewer:		Date: Wed, Oct 10, 2001	Page: ____/____			
<input type="checkbox"/> Inbound <input type="checkbox"/> Outbound	Time:	Truck Type:	Gross Vehicle Weight (kg):	Occupancy:			
DESCRIBE THE LOAD CARRIED AT THIS POINT (MAY BE MULTIPLE)							
<input type="checkbox"/> Load Type of:	<input type="checkbox"/> Service	Quantity: Incl. Units		\$ Value: CDN/US			
WHERE WAS THIS LOAD PICKED UP (ADDRESS, TOWN, PROVINCE / STATE.)?							
If distant: where did the load originate today (town, province / state)?							
WHERE WILL THIS LOAD BE DELIVERED (ADDRESS, TOWN, PROVINCE / STATE)?							
If distant: where will this load stop today?							
IS THIS PART OF A ROUND TRIP: <input type="checkbox"/> Yes <input type="checkbox"/> No							
WHAT HIGHWAY(S) WAS USED TO GET HERE?							
WHAT HIGHWAY(S) WILL YOU USE NEXT?							
INBOUND: IS THIS LOAD STOPPING WITHIN EDMONTON OR THE REGION FOR LONGER THAN 15 MINUTES? OUTBOUND: DID THIS LOAD STOP IN EDMONTON OR THE REGION FOR LONGER THAN 15 MINUTES? <input type="checkbox"/> YES, ask for specific stops. <input type="checkbox"/> NO:							
Stop	Location (address, establishment, town)	Reason	Arrival Time	Depart Time	Commodity	Quantity	Value
1		<input type="checkbox"/> Delivery <input type="checkbox"/> Pick Up <input type="checkbox"/> Service					
2		<input type="checkbox"/> Delivery <input type="checkbox"/> Pick Up <input type="checkbox"/> Service					
3		<input type="checkbox"/> Delivery <input type="checkbox"/> Pick Up <input type="checkbox"/> Service					
4		<input type="checkbox"/> Delivery <input type="checkbox"/> Pick Up <input type="checkbox"/> Service					
WHO OWNS THIS TRUCK (CIRLCE) : Company Owned Company Leased For Hire							

Freedom of Information Declaration: The Company information is collected for transportation purposes by the City of Edmonton, Transportation and Streets Department, under the authority of Section 32© of the Freedom of Information and Protection of Privacy (FOIP) Act and is protected by the FOIP Act. If you have any questions about the collection, please contact the General Supervisor, Transportation Planning Branch @ 496-1778.



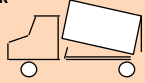
Edmonton Region External Truck Commodity Survey

Classification of Commodity and Service Vehicles

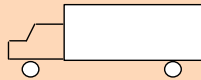
Single Unit

Dump truck

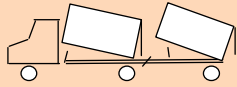
D s



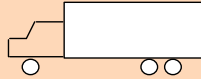
S2 s



D d

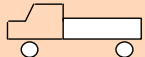


S3 s

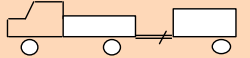


Pick up truck

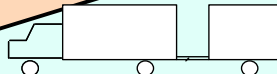
P s



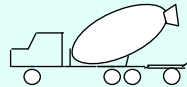
P d



M3 d



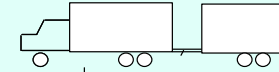
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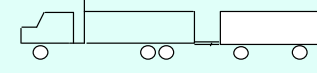
M5 c



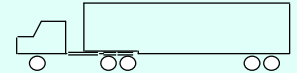
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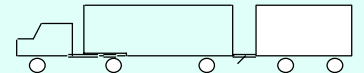
M5 d



M5 s



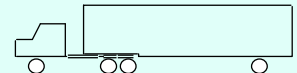
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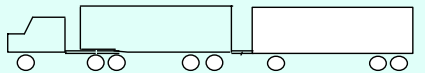
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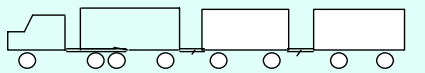
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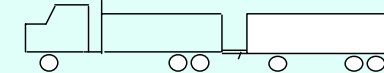
M8 d



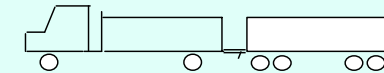
M8 t



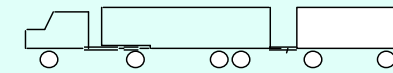
M6 d



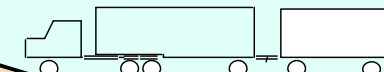
M6 d



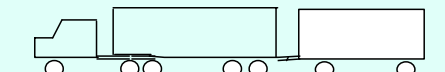
M7 d



M7 d



M7 d



Multi Unit

Classified by number of axles including trailer

Edmonton Region External Truck Commodity Survey

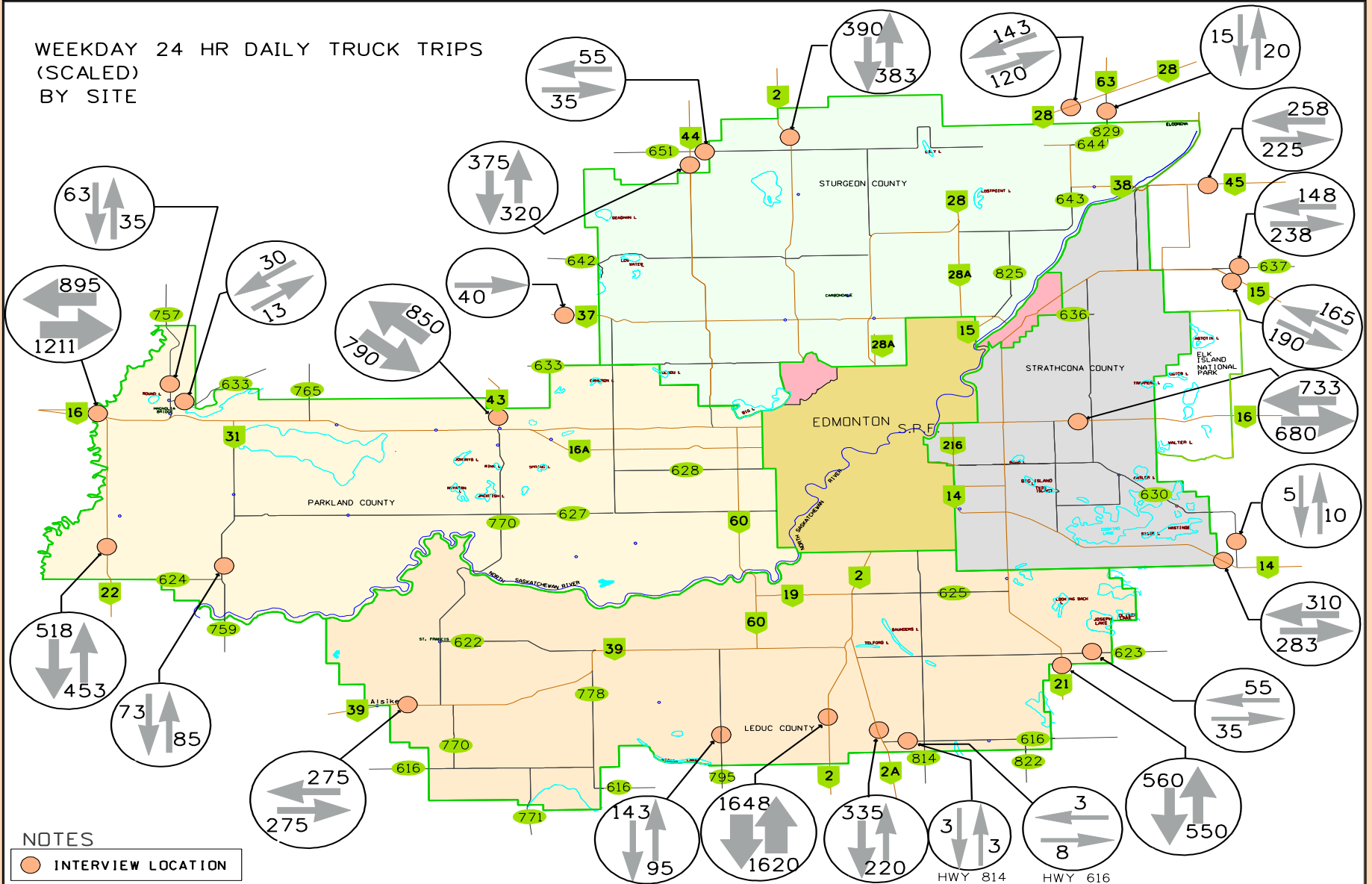
Study Findings

- 6,771 Trucks Counted (8:00 AM - 4:00 PM)
- 6,505 Trucks Interviewed (96% of trucks counted)
- 6,390 Useable Surveys (98% of trucks interviewed)
- 15,975 Weekday 24 Hour Daily Truck Trips
- 16,213 Weekday 24 Hour Daily Commodity Trips

- Outstanding cooperation from the truckers

Edmonton Region External Truck Commodity Survey

WEEKDAY 24 HR DAILY TRUCK TRIPS
(SCALED)
BY SITE

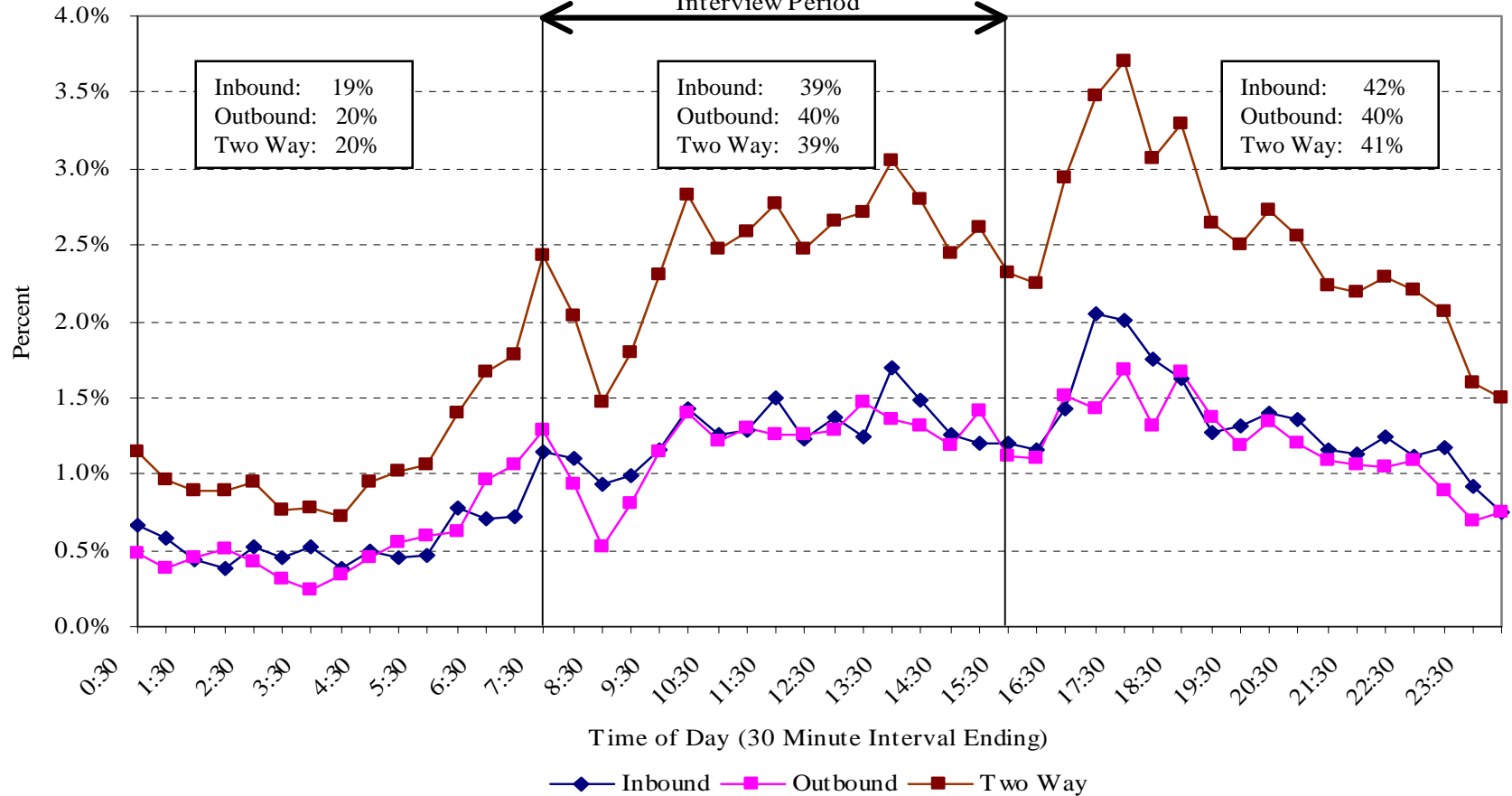


Edmonton Region External Truck Commodity Survey

Time of Day Distribution - Inbound/Outbound (Trucks only)

Hwy 2 South, Hwy 16 East and West, Hwy 43 - Survey September/November 2001 - 24 Hour

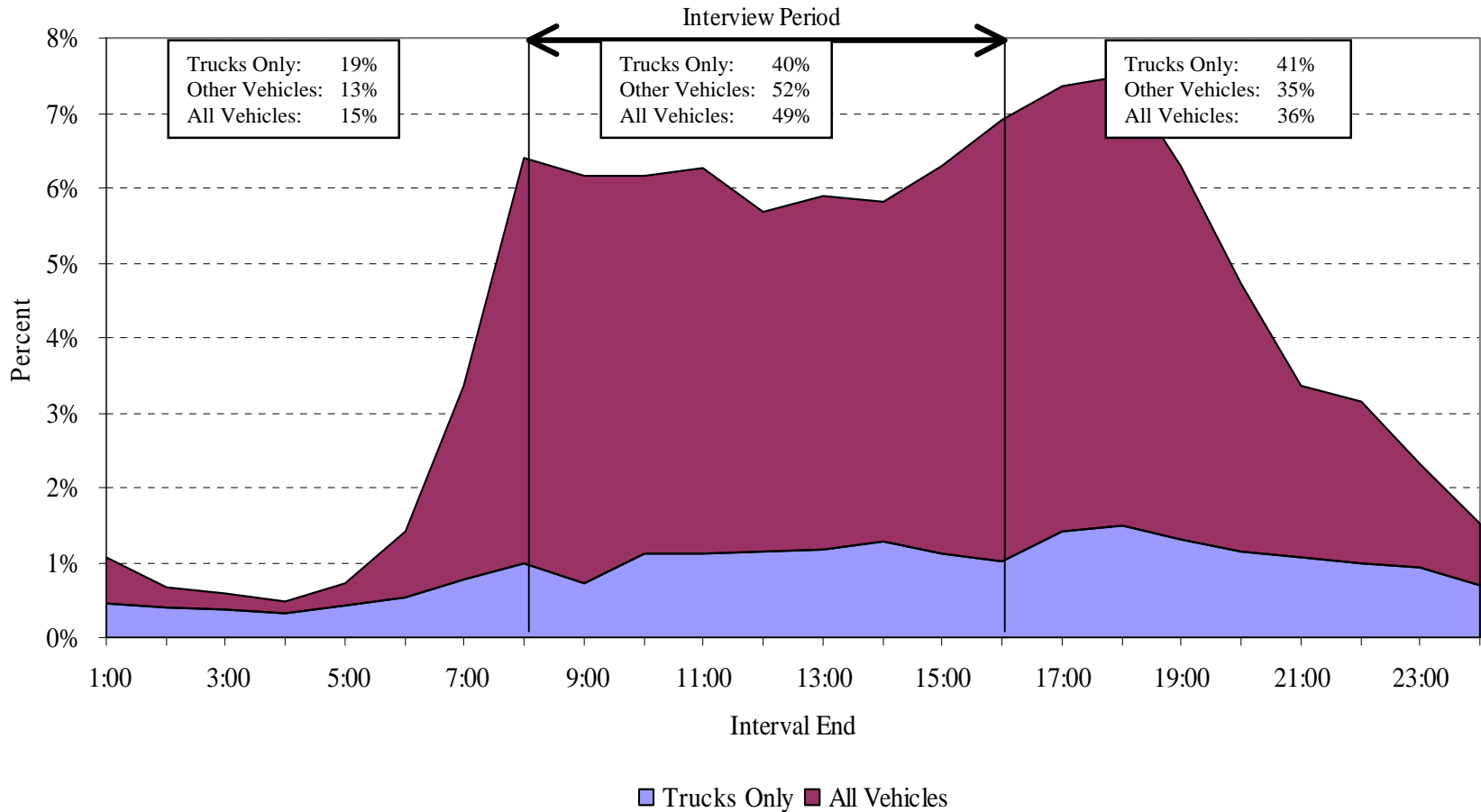
Interview Period



Edmonton Region External Truck Commodity Survey

Time Of Day Distribution -- Trucks, All Vehicles

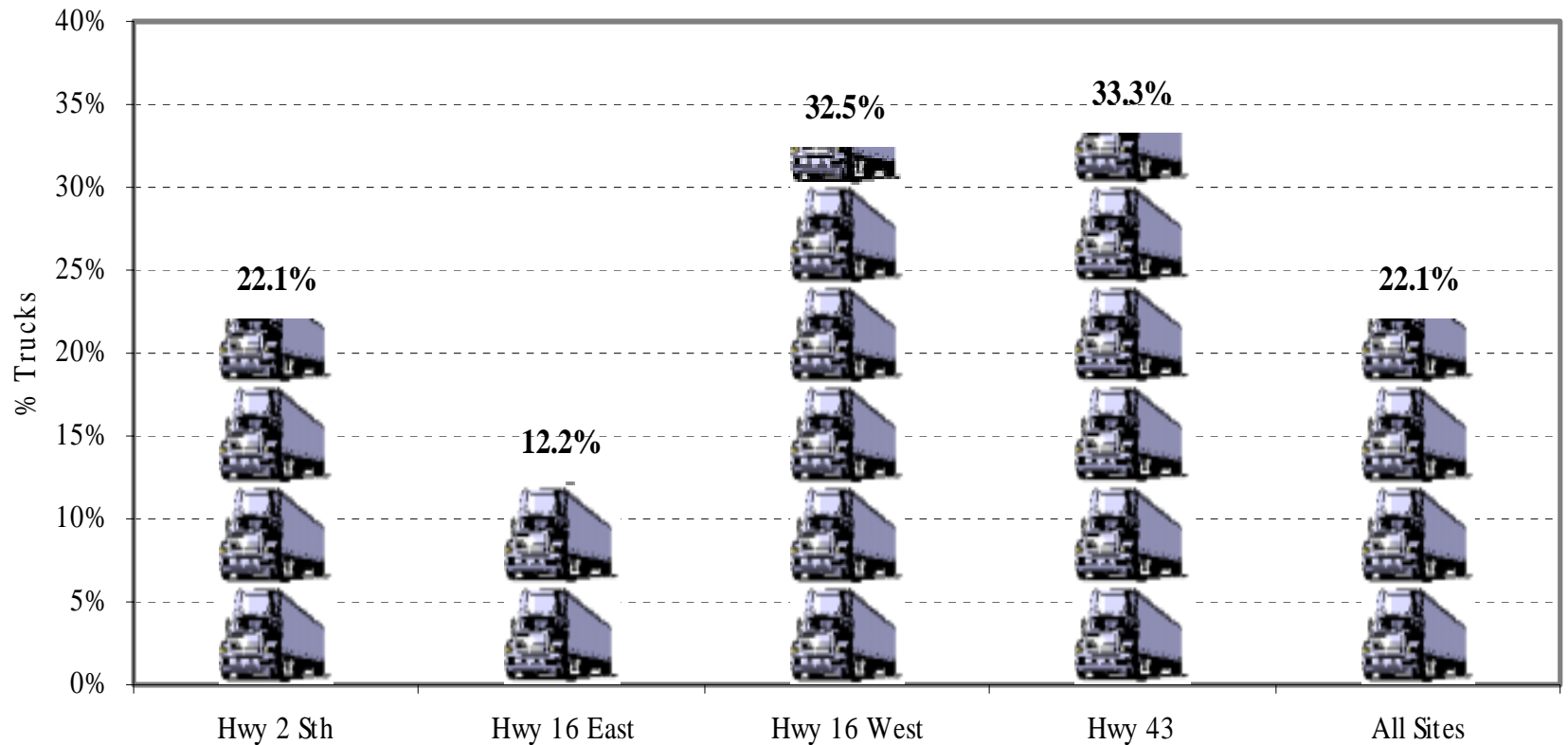
Hwy 2 Sth, Hwy 16 East & West, Hwy 43 - Survey September/November 2001 - Weekday 24 Hour



Edmonton Region External Truck Commodity Survey

Truck Share of all Traffic - Weekday 24 Hour Daily

Hwy 2 Sth, Hwy 16 East & West, Hwy 43, All Sites - Survey September/November 2001



Hwy 2 South - AT Trucks - 20%; high volume of gravel trucks during interview.

Hwy 16 East -AT Trucks - 10%.

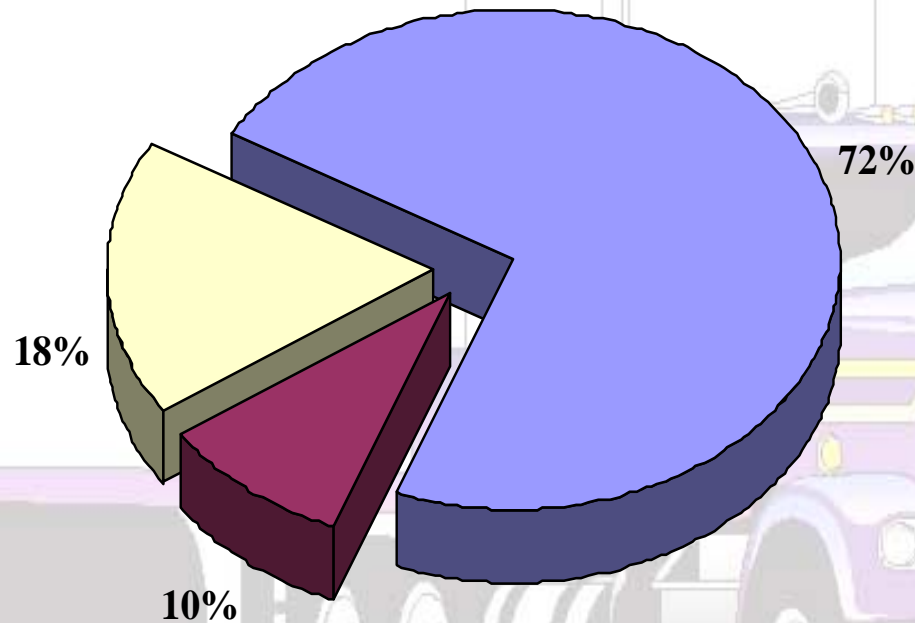
Hwy 16 West - AT Trucks - 18% (interview location). ATR report W of Hwy 22 used to derive truck % for study; high volume of gravel trucks at interview location.

Hwy 43 - AT Truck 23%.

Edmonton Region External Truck Commodity Survey

Trucks by Ownership

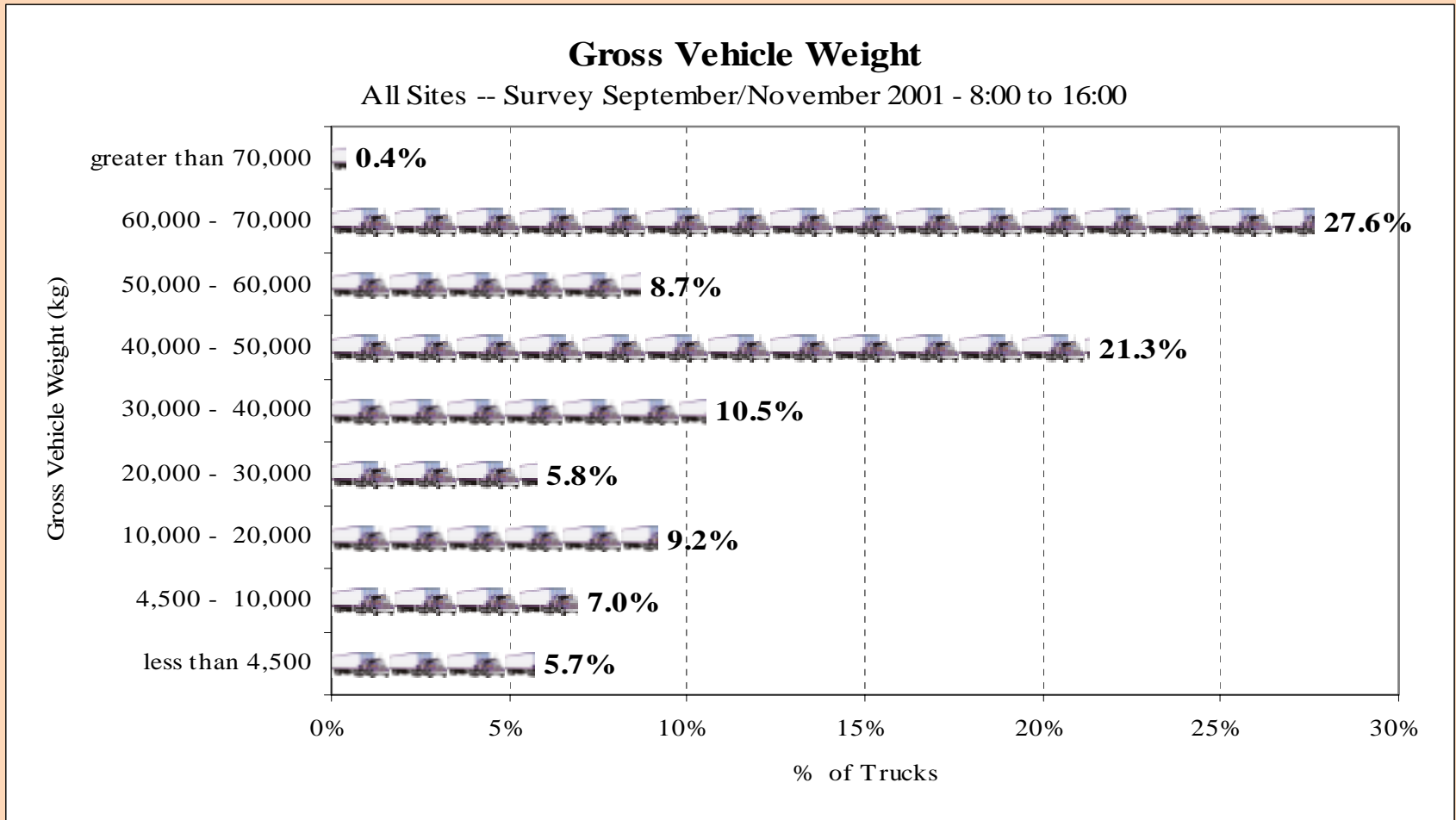
All Sites - Survey September/November 2001 - 8:00 to 16:00



- Owned by company producing goods being shipped
- Leased and operated by company producing goods being shipped
- For Hire: Owned by a different company or driver

Edmonton Region External Truck Commodity Survey

Gross Vehicle Weight



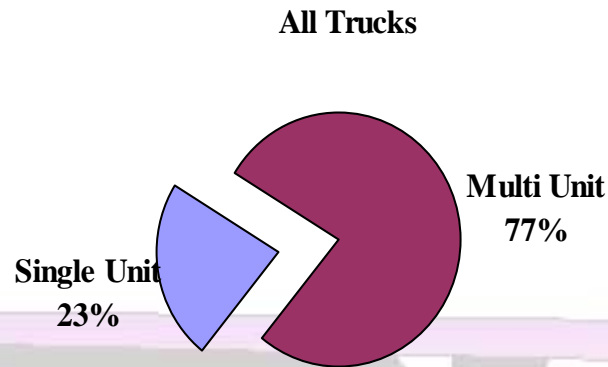
Total tonnage GVW (24 hour) = 660, 000 metric tons

Edmonton Region External Truck Commodity Survey

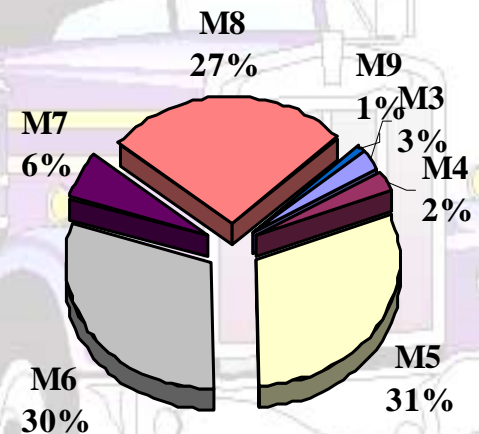
Trucks by Type

All Sites - Survey September/November 2001

8:00 to 16:00



Multi Unit - Number of Axles



Edmonton Region External Truck Commodity Survey

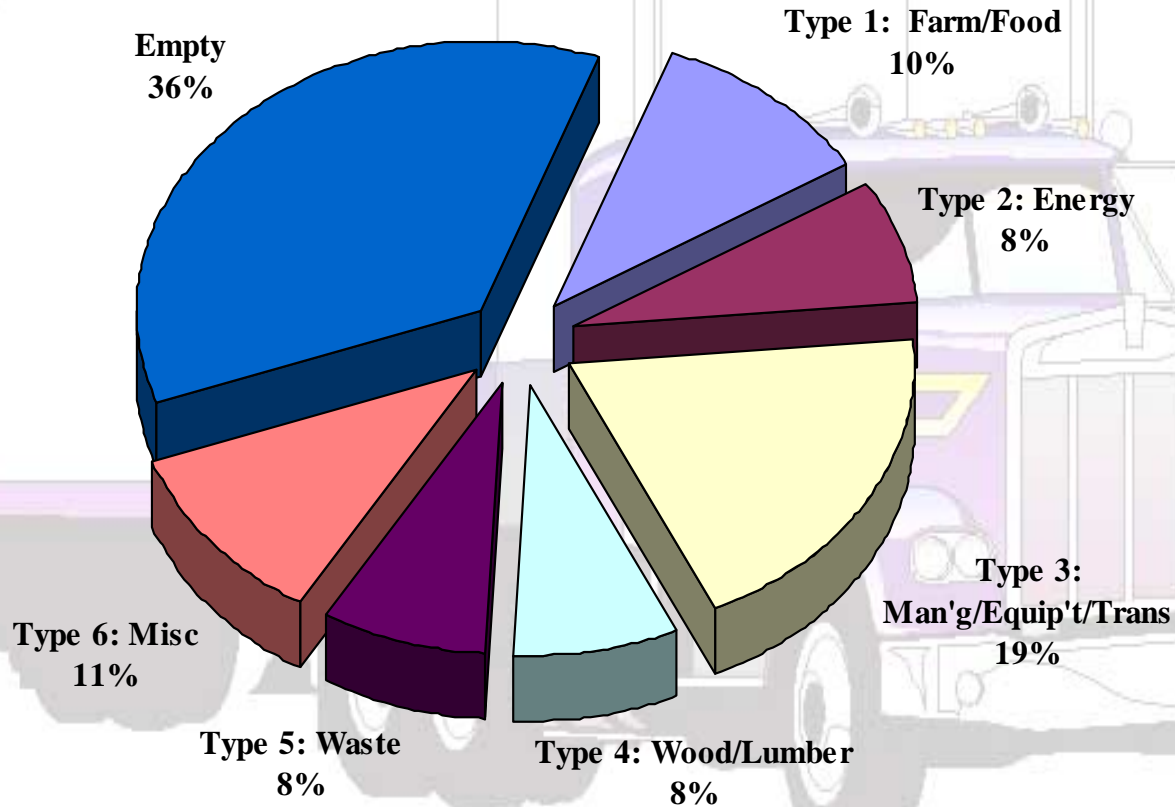
Commodity Classification

- **Statistics Canada - Standard Classification of Transported Goods (SCTG)**
- **Additional Codes required for Services**
- **Hazardous Goods codes collected in field and assigned to Commodity**

Edmonton Region External Truck Commodity Survey

Trucks by Commodity Type

All Sites - Survey September/November 2001 - 8:00 to 16:00

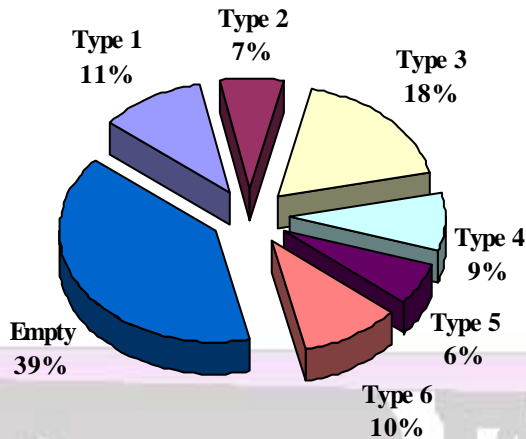


Edmonton Region External Truck Commodity Survey

Trucks by Commodity Type - Inbound / Outbound

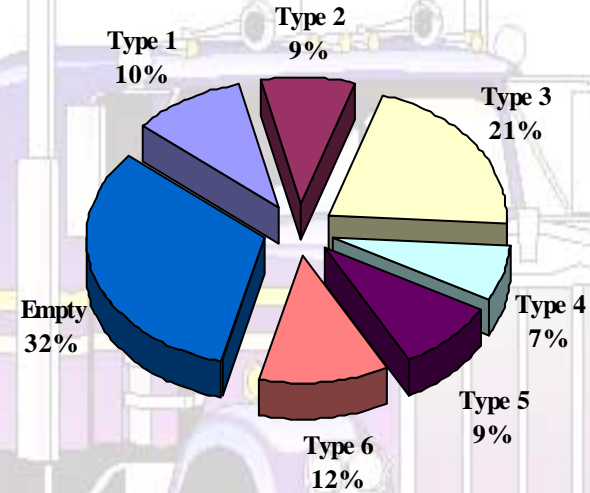
Inbound Trucks by Commodity Type

All Sites - Survey September/November 2001 - 8:00 to 16:00



Outbound Trucks by Commodity Type

All Sites - Survey September/November 2001 - 8:00 to 16:00



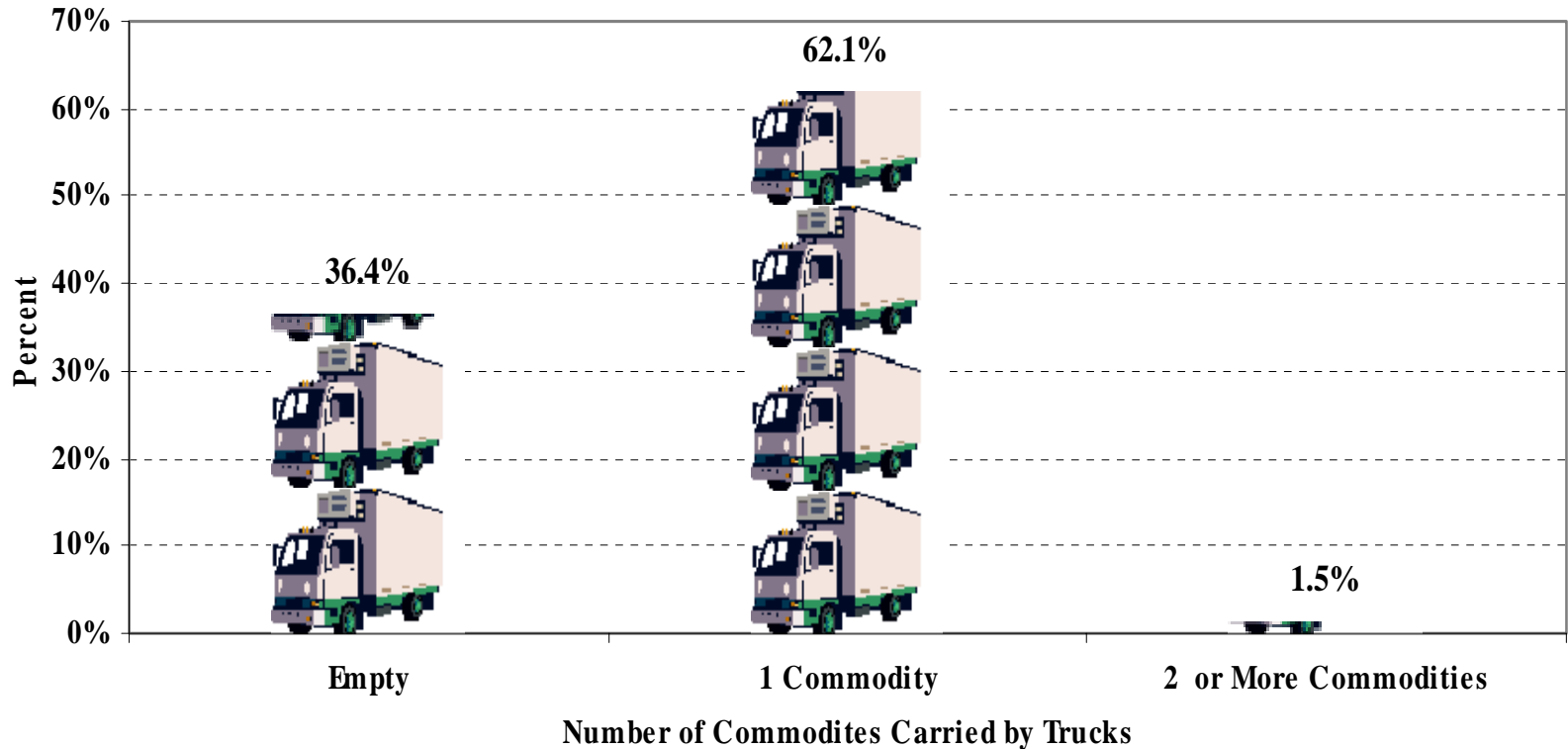
Type 1: Farm, Food Industry
Type 2: Energy Industry (oil, mining, chemical, mineral, stones)
Type 3: Manufacturing, Machinery, Equipment, Transportation
Type 4: Wood, Lumber Industry
Type 5: Waste, Hazardous Materials, Waste Hazardous Substances
Type 6: Miscellaneous
Empty

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Number of Commodities Carried by Trucks

Percentage of Trucks by Number of Commodites

All sites - Survey September/November 2001 - 8:00 to 16:00 - Trucks: 6,389 Commodities: 6,490



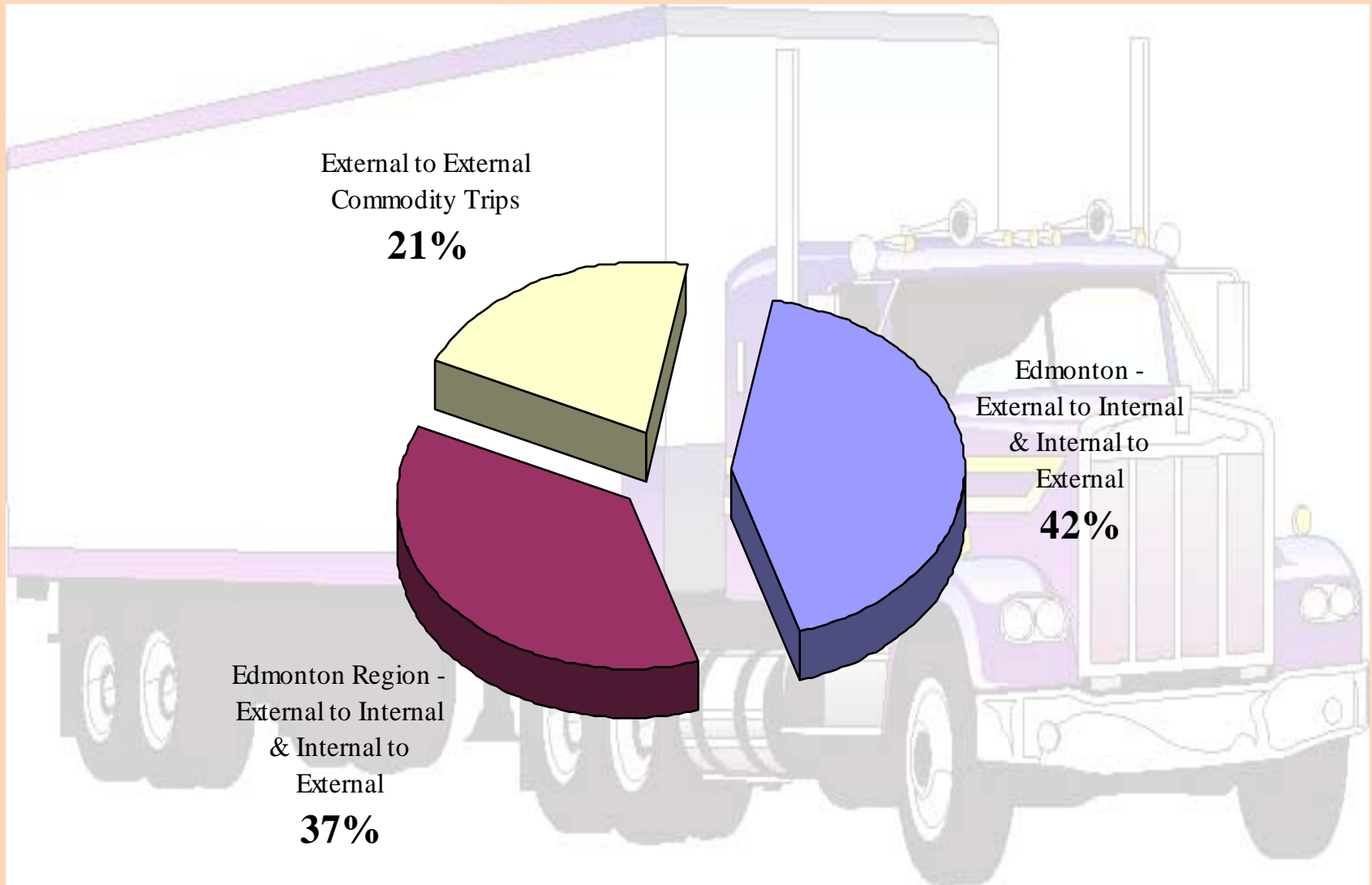
Edmonton Region External Truck Commodity Survey

Commodity Origin / Destination by Locality - Weekday 24 Hour Daily

Destined To →		Edmonton	Calgary	Northeast	Northwest	Southeast	Southwest	British	Sask. &	Rest of	United	
↓ Originating In	Edmonton	Region	Region	Alberta	Alberta	Alberta	Alberta	Columbia	Manitoba	Canada	States	Total
Edmonton		15	545	505	775	918	228	205	198	38	100	3,525
Edmonton Region	20	95	210	465	678	918	388	95	133	15	38	3,045
Calgary Region	358	165		90	105	28	5	40	8	5		803
Northeast Alberta	610	413	38	38	50	90	45	20	3		3	1,308
Northwest Alberta	763	768	113	38	118	288	568	13	45	10	30	2,750
Southeast Alberta	908	943	13	80	180	195	58	30	5	3		2,413
Southwest Alberta	245	448	8	65	433	43	103	28	3		5	1,378
British Columbia	220	95	38	15	13	28	20	8	28	8	5	475
Saskatchewan & Manitoba	140	80	5	13	45	5	3	28			3	320
Rest of Canada	30	10	10	3	8	5		18				83
United States	58	15	5		8	3		5			15	108
Total	3,350	3,045	983	1,310	2,410	2,518	1,415	488	420	78	198	16,213

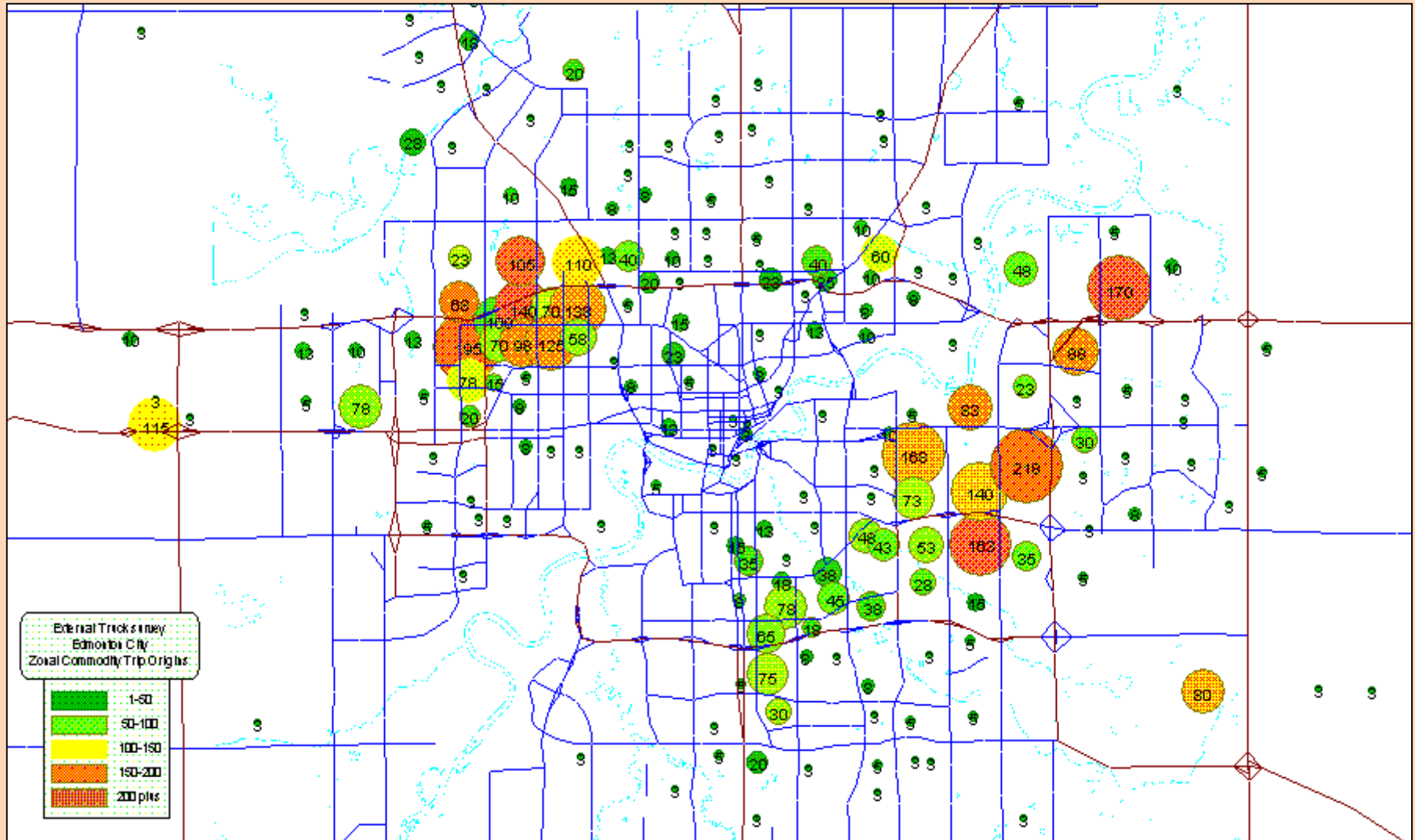
Edmonton Region External Truck Commodity Survey

Commodity Trips Internal to External & External to External - Weekday 24 Hour Daily



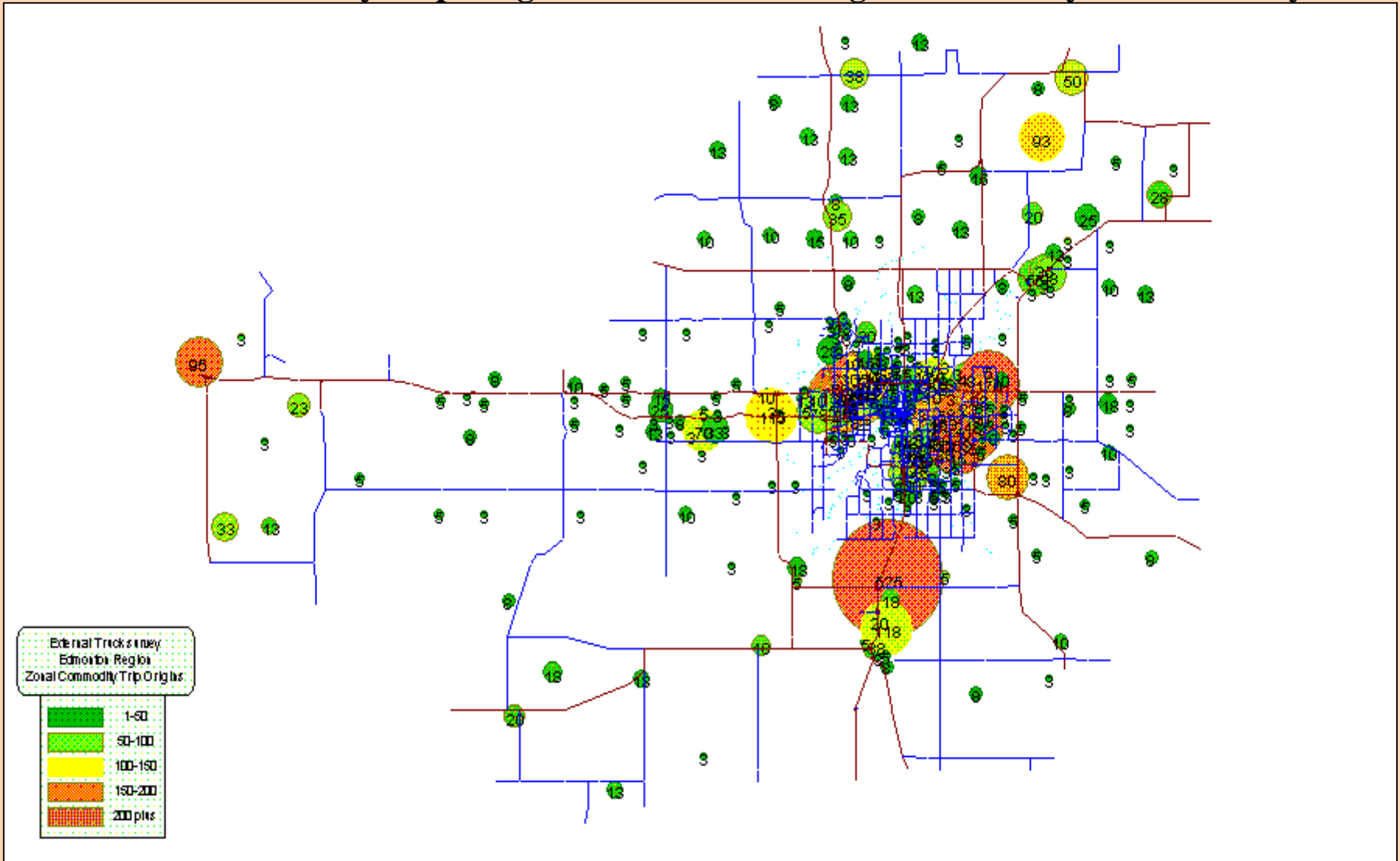
Edmonton Region External Truck Commodity Survey

Zonal Commodity Trip Origins for Edmonton City & Immediate Area - Weekday 24 Hour Daily



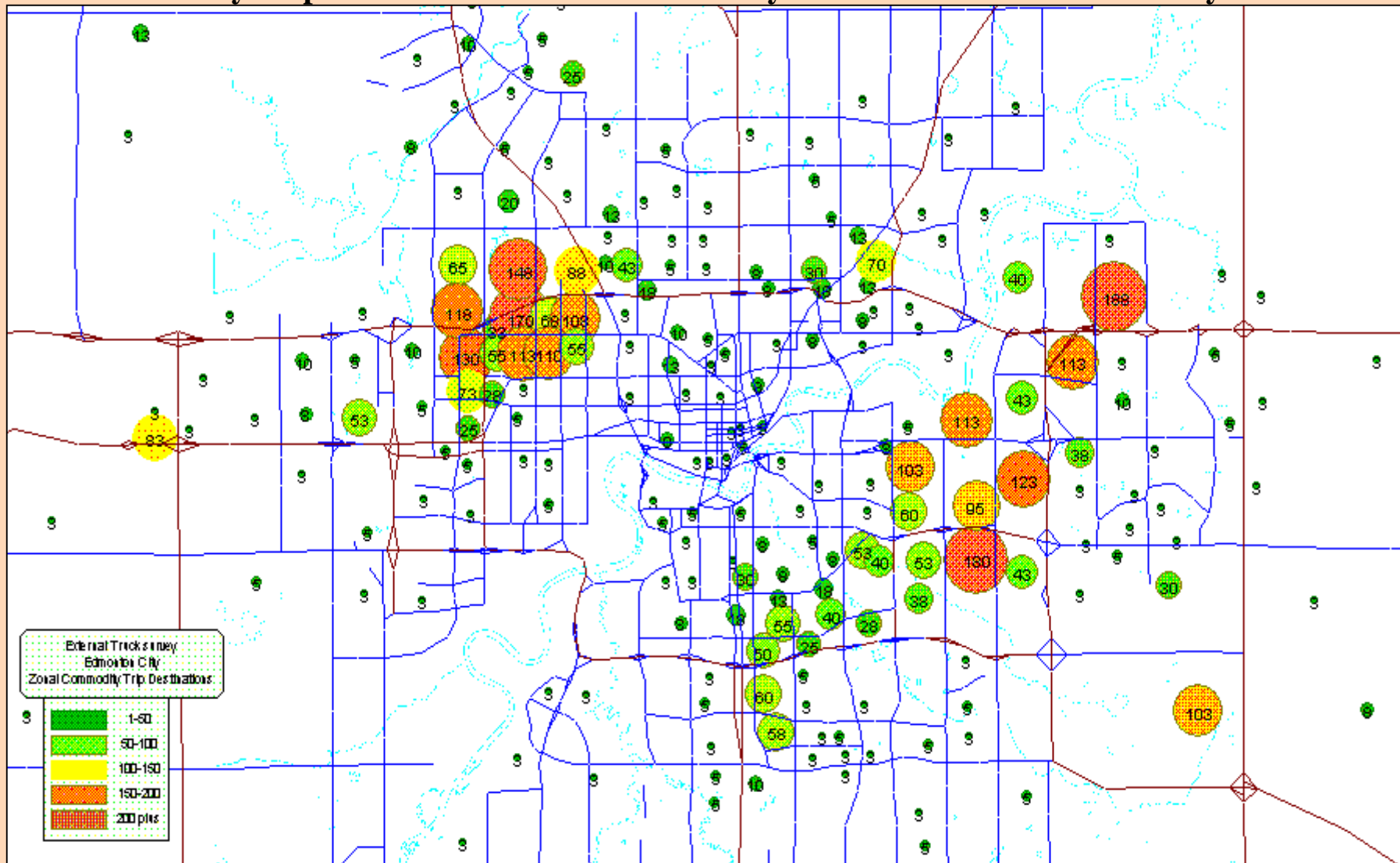
Edmonton Region External Truck Commodity Survey

Zonal Commodity Trip Origins for Edmonton Region - Weekday 24 Hour Daily



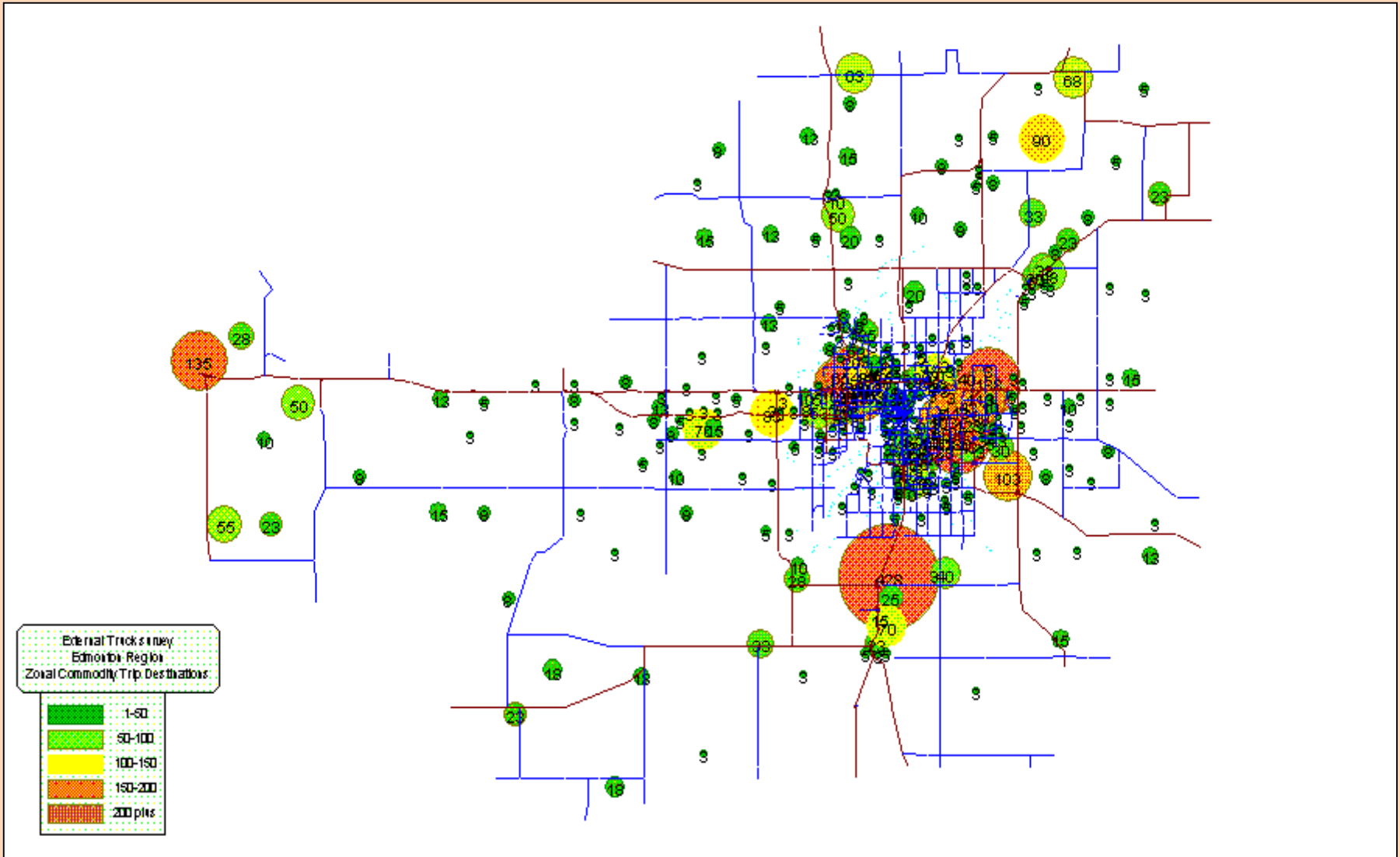
Edmonton Region External Truck Commodity Survey

Zonal Commodity Trip Destinations for Edmonton City & Immediate Area - Weekday 24 Hour Daily



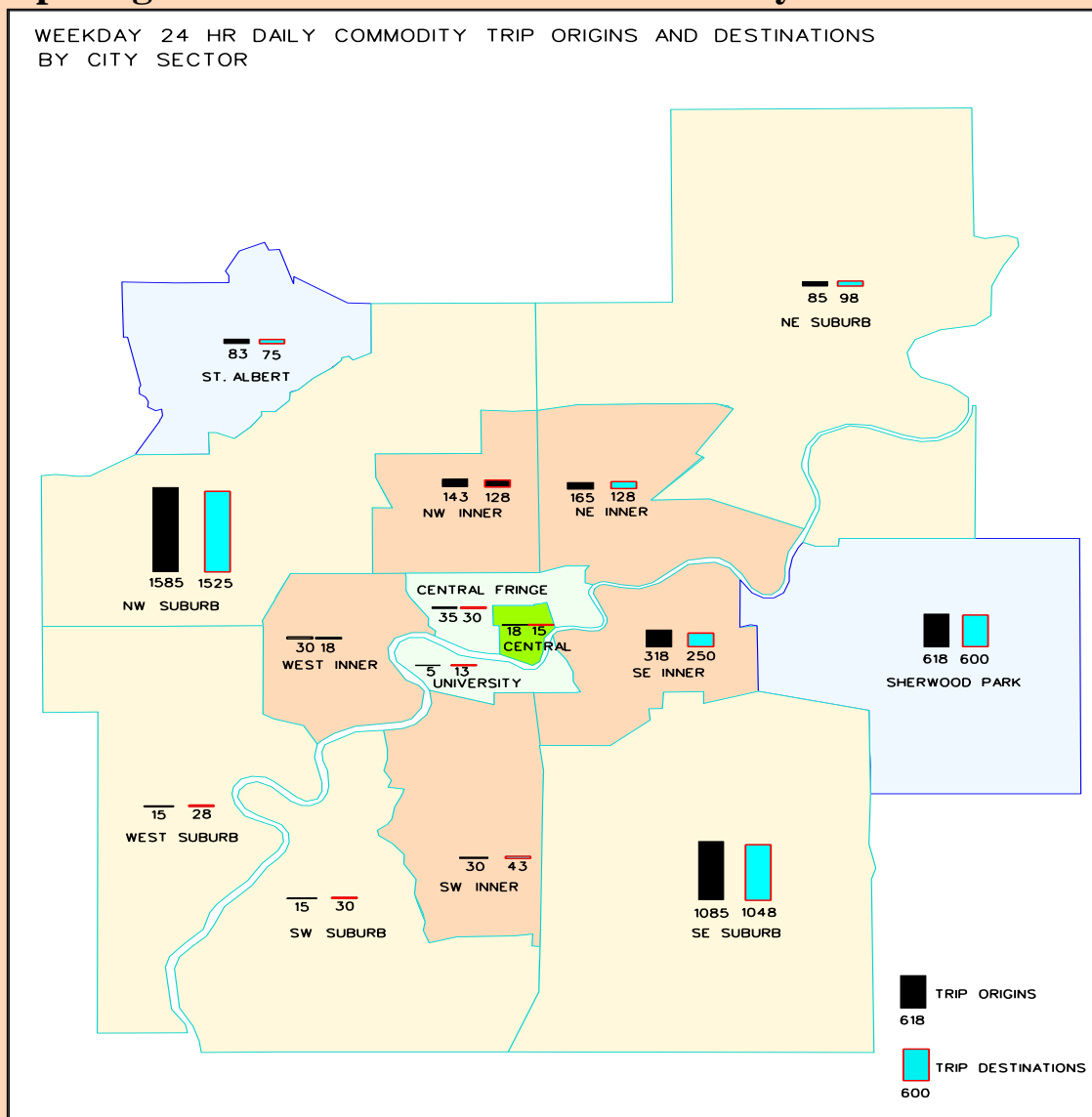
Edmonton Region External Truck Commodity Survey

Zonal Commodity Trip Destinations for Edmonton Region - Weekday 24 Hour Daily



Edmonton Region External Truck Commodity Survey

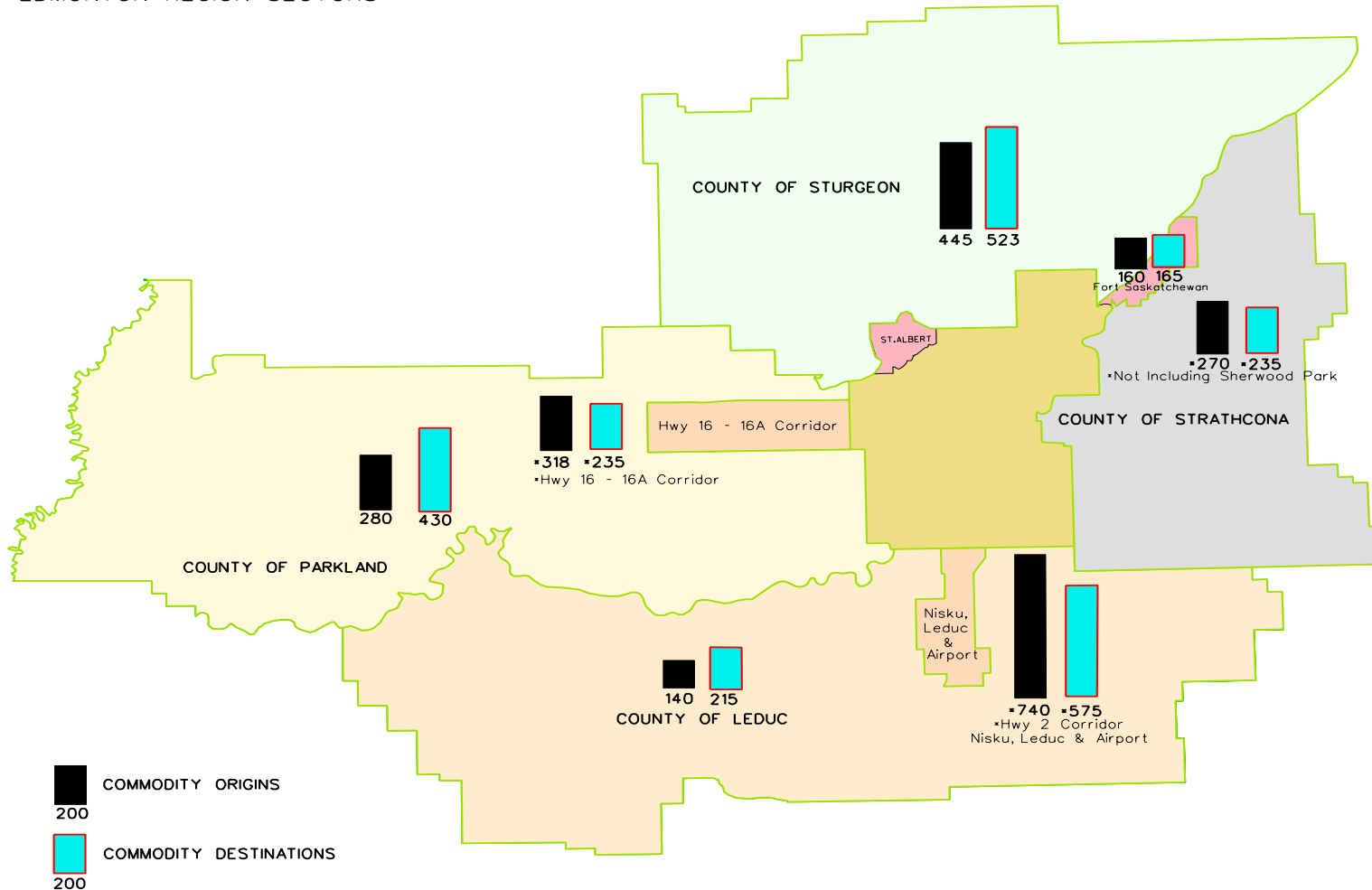
Commodity Trip Origins & Destinations for Edmonton by Sector - Weekday 24 Hour Daily



Edmonton Region External Truck Commodity Survey

Commodity Trip Origins & Destinations for Edmonton Region by Sector - Weekday 24 Hour Daily

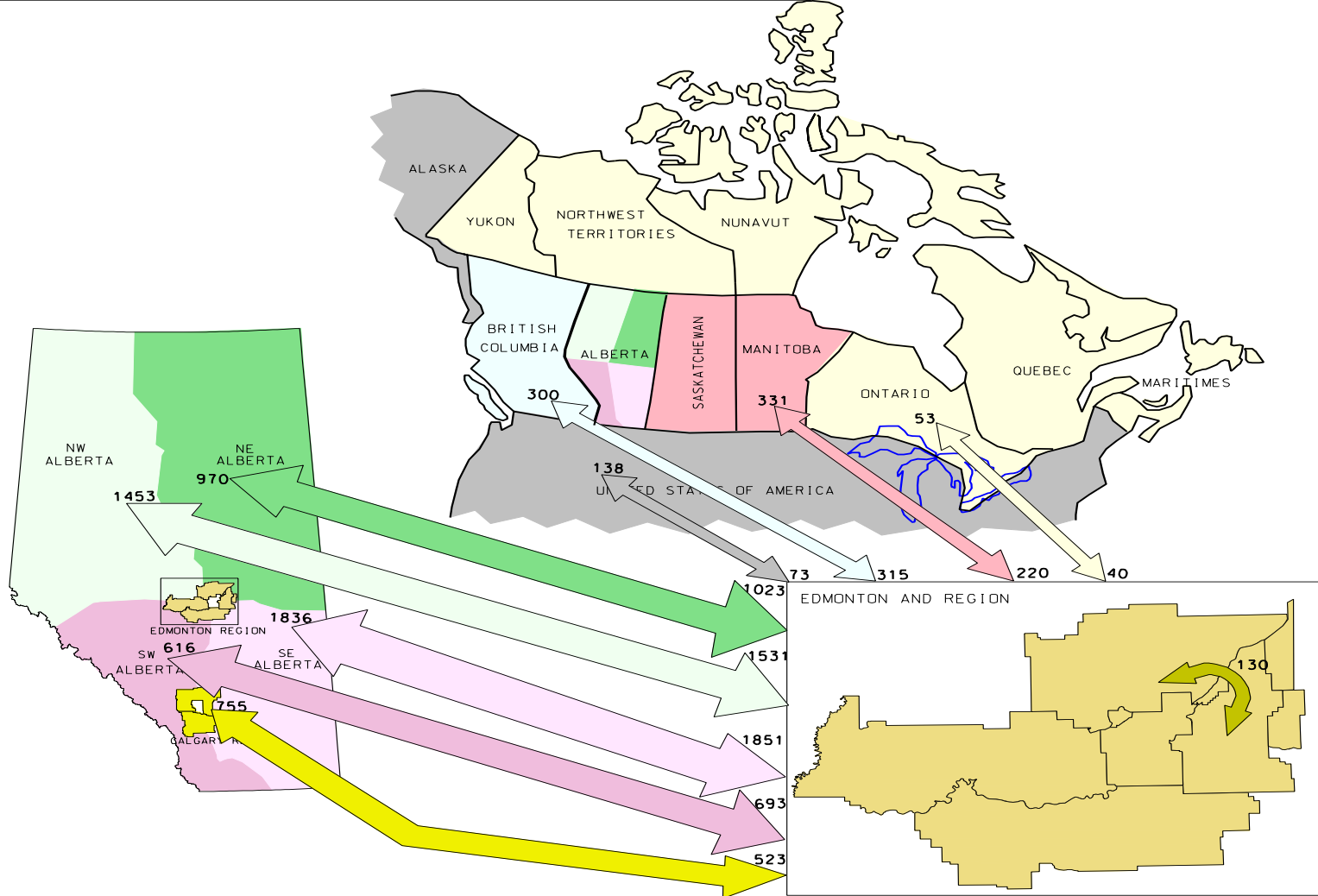
WEEKDAY 24 HR DAILY COMMODITY TRIP ORIGINS AND DESTINATIONS
BY EDMONTON REGION SECTORS



Edmonton Region External Truck Commodity Survey

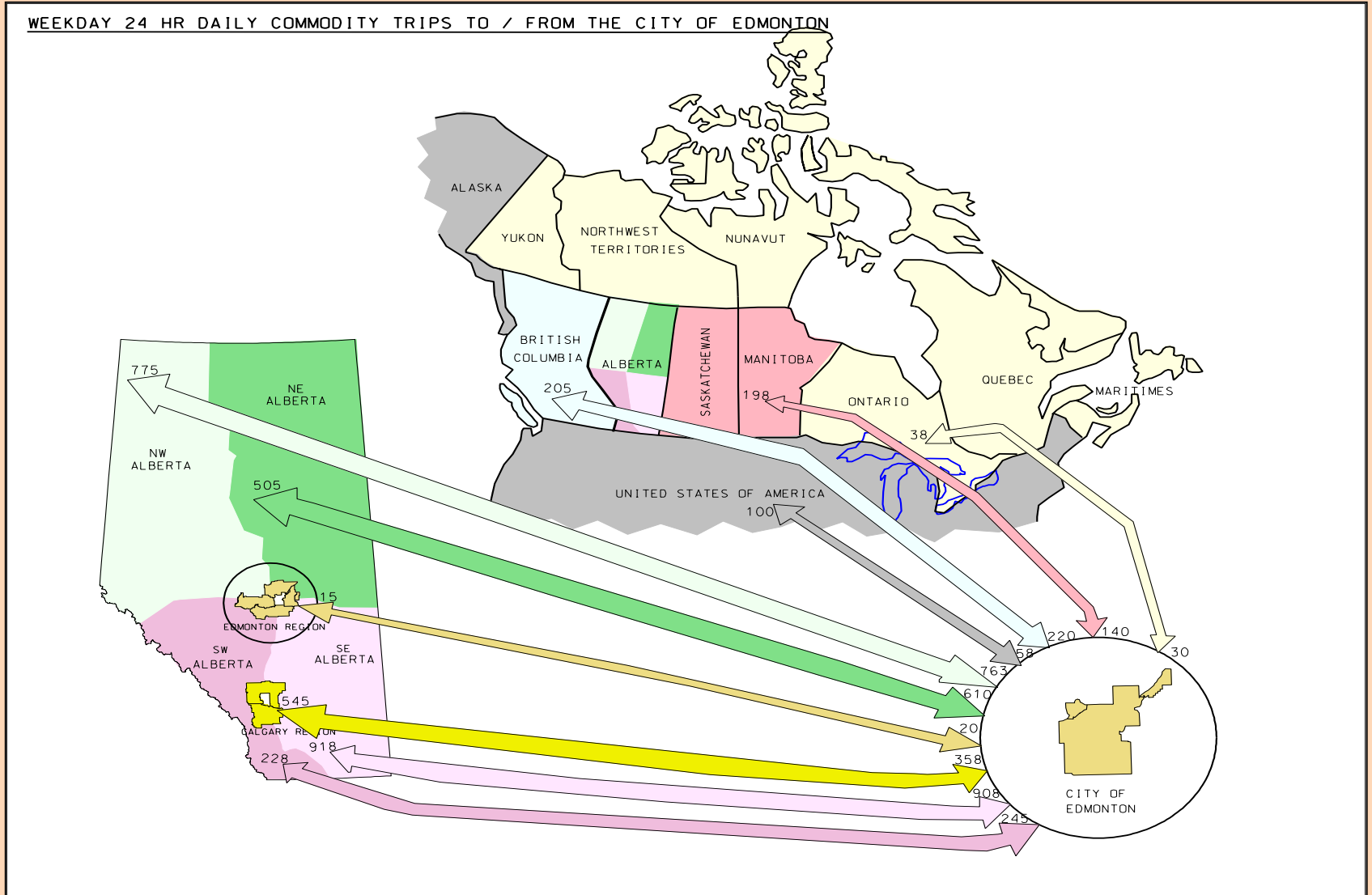
Commodity Trips To/From Edmonton and Edmonton Region

WEEKDAY 24 HR DAILY COMMODITY TRIPS TO / FROM EDMONTON AND REGION



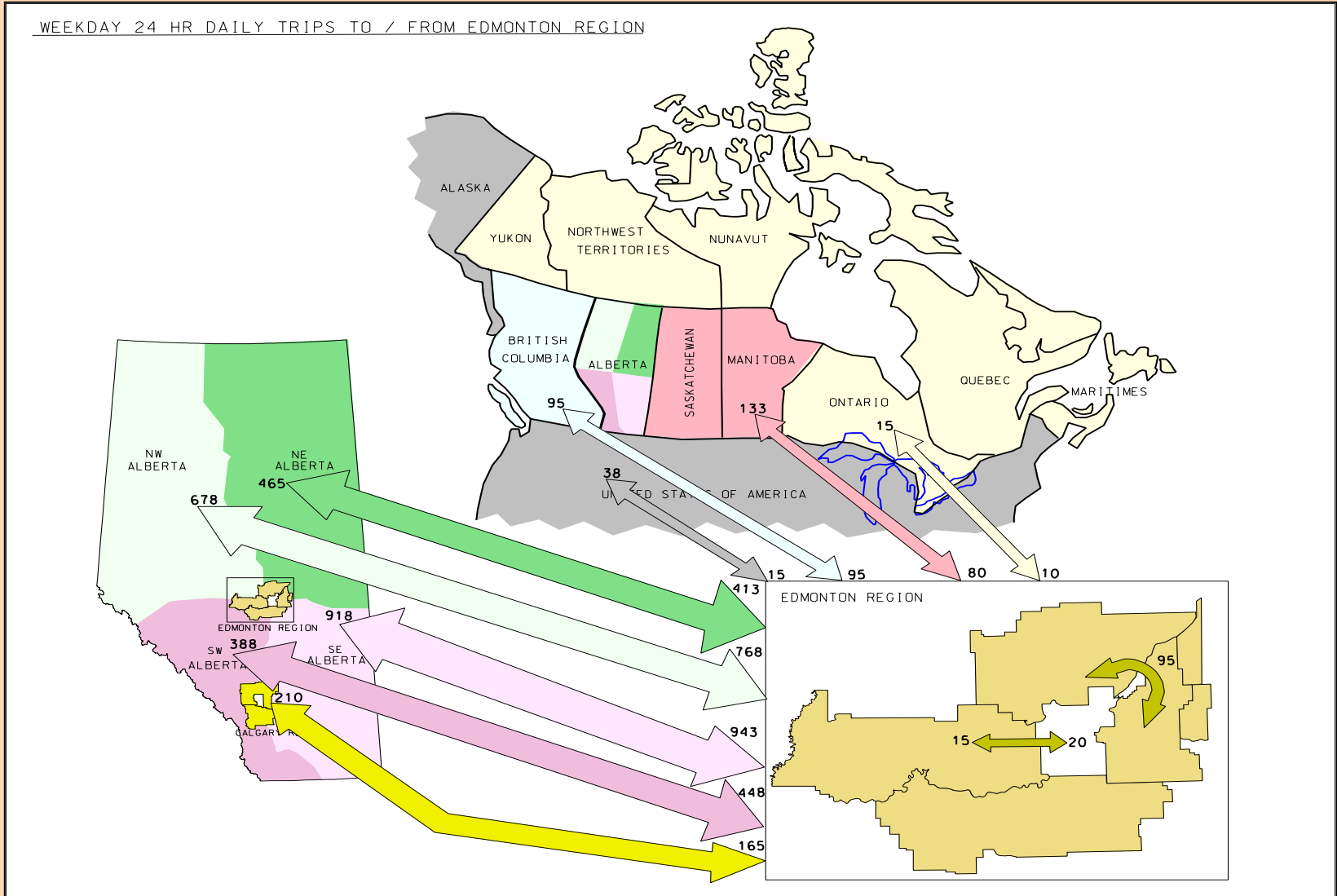
Edmonton Region External Truck Commodity Survey

Commodity Trips To/From Edmonton



Edmonton Region External Truck Commodity Survey

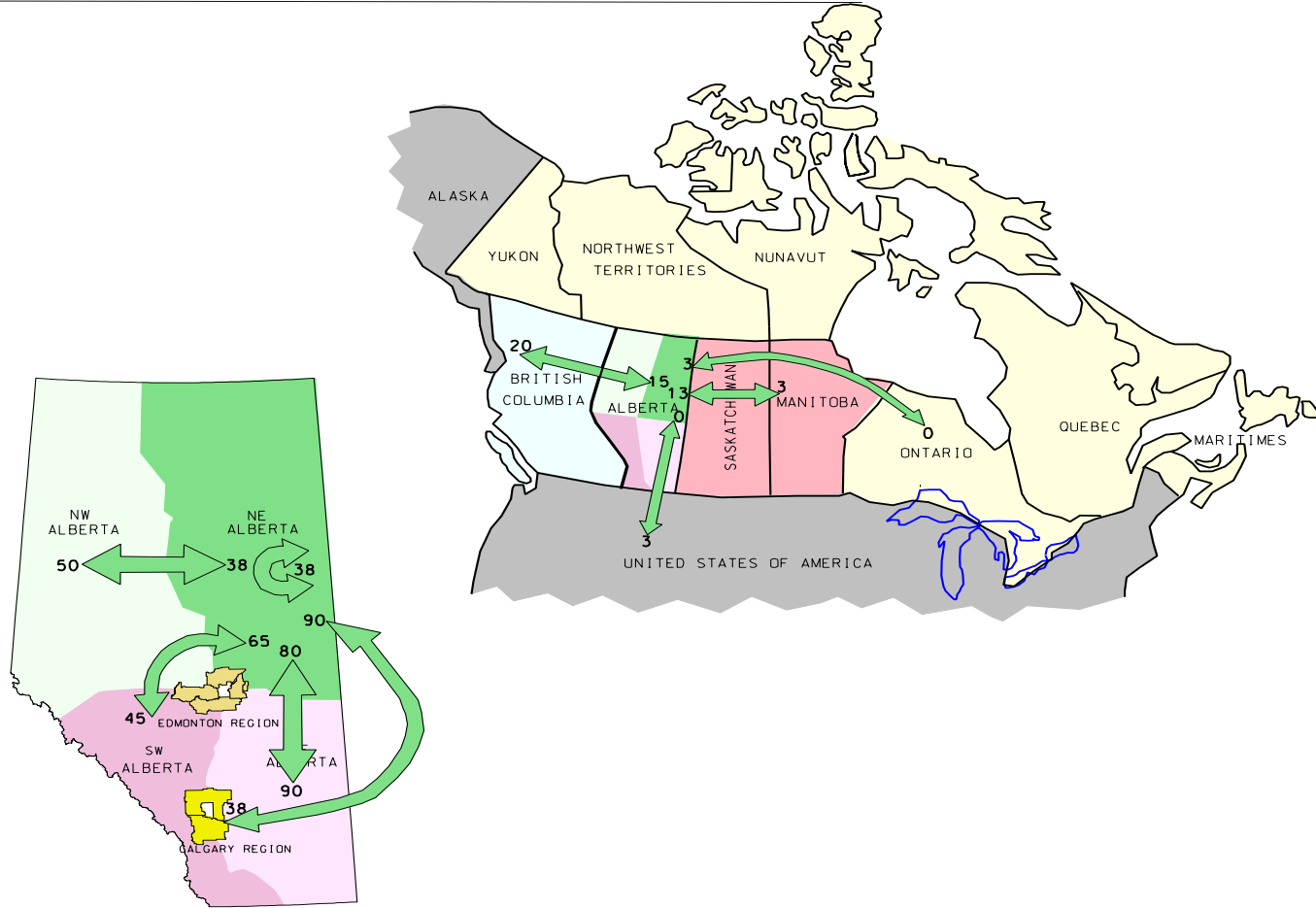
Commodity Trips To/From Edmonton Region



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Commodity Trips To/From Northeastern Alberta

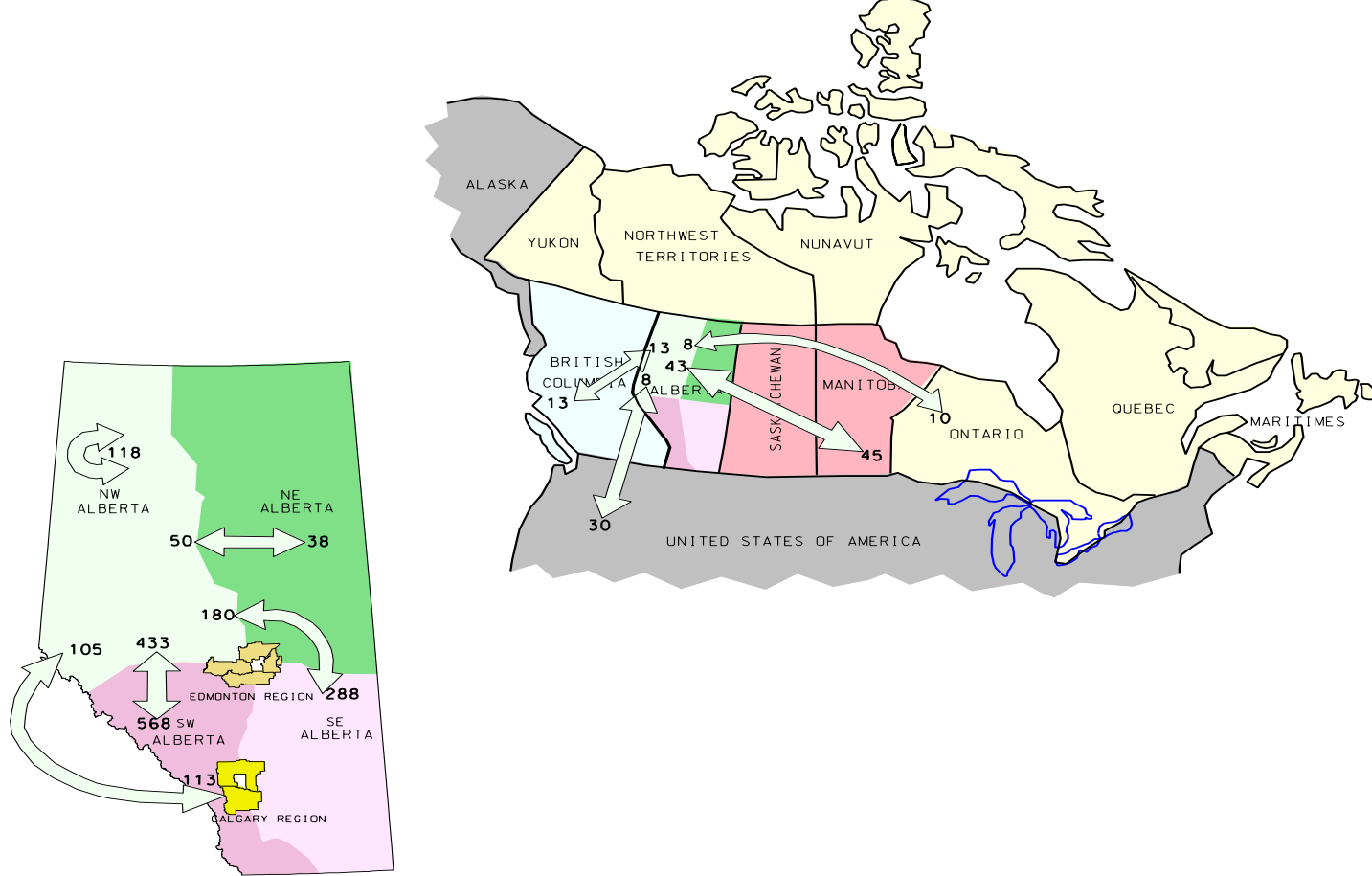
WEEKDAY 24 HR DAILY COMMODITY TRIPS TO / FROM NORTHEASTERN ALBERTA



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Commodity Trips To/From Northwestern Alberta

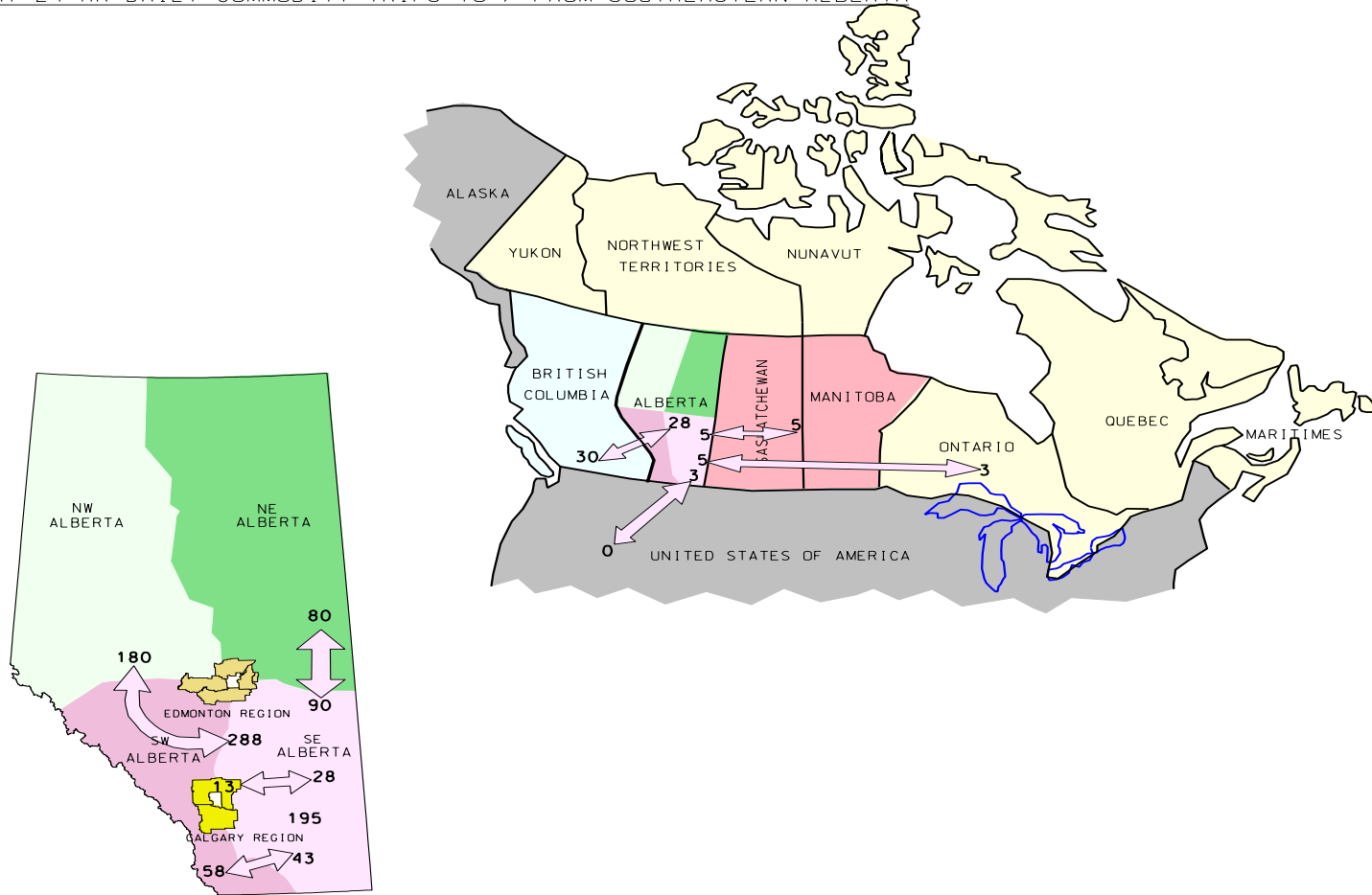
WEEKDAY 24 HR DAILY COMMODITY TRIPS TO / FROM NORTHWESTERN ALBERTA



Edmonton Region External Truck Commodity Survey

Commodity Trips To/From Southeastern Alberta

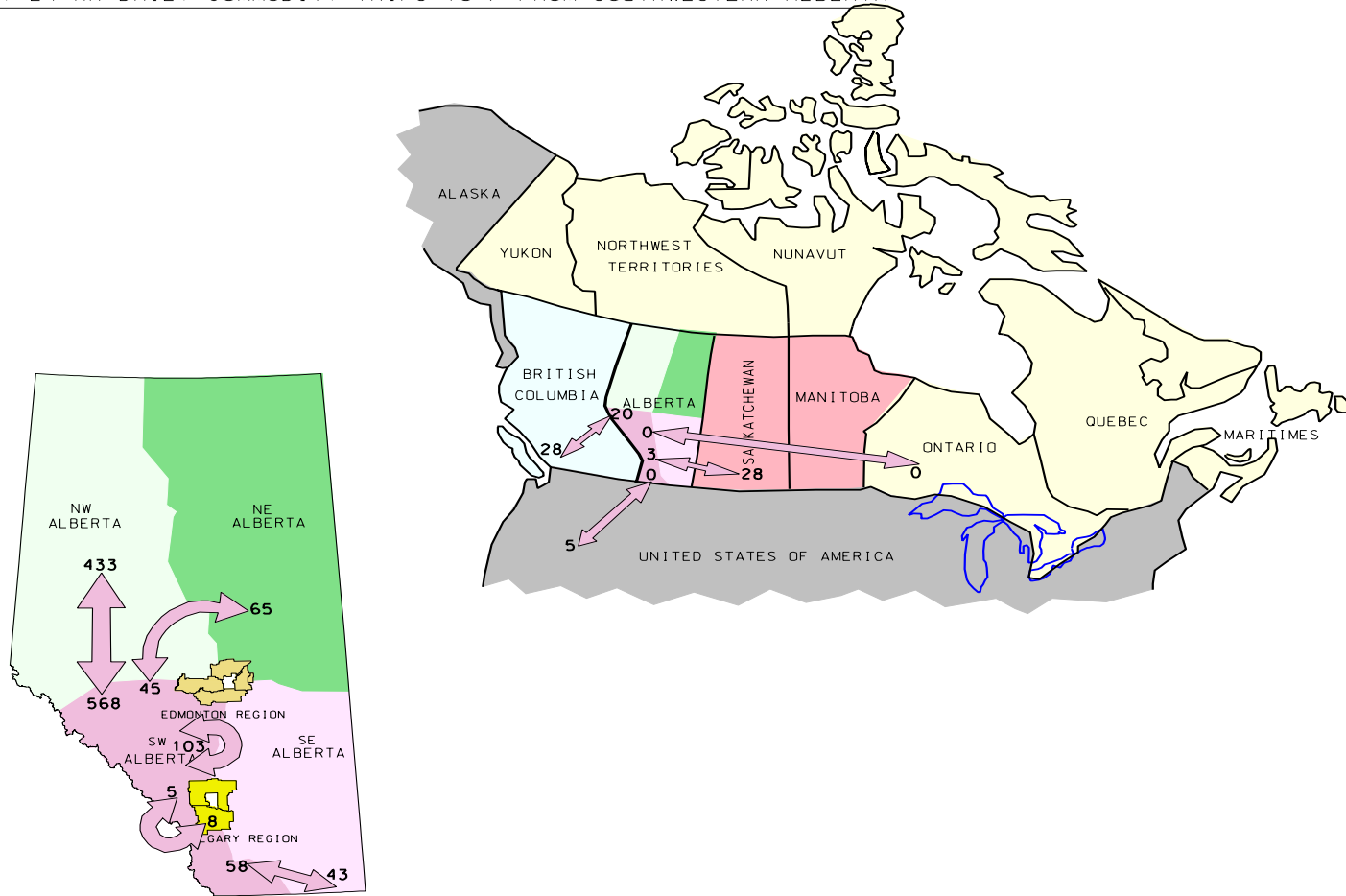
WEEKDAY 24 HR DAILY COMMODITY TRIPS TO / FROM SOUTHEASTERN ALBERTA



Edmonton Region External Truck Commodity Survey

Commodity Trips To/From Southwestern Alberta

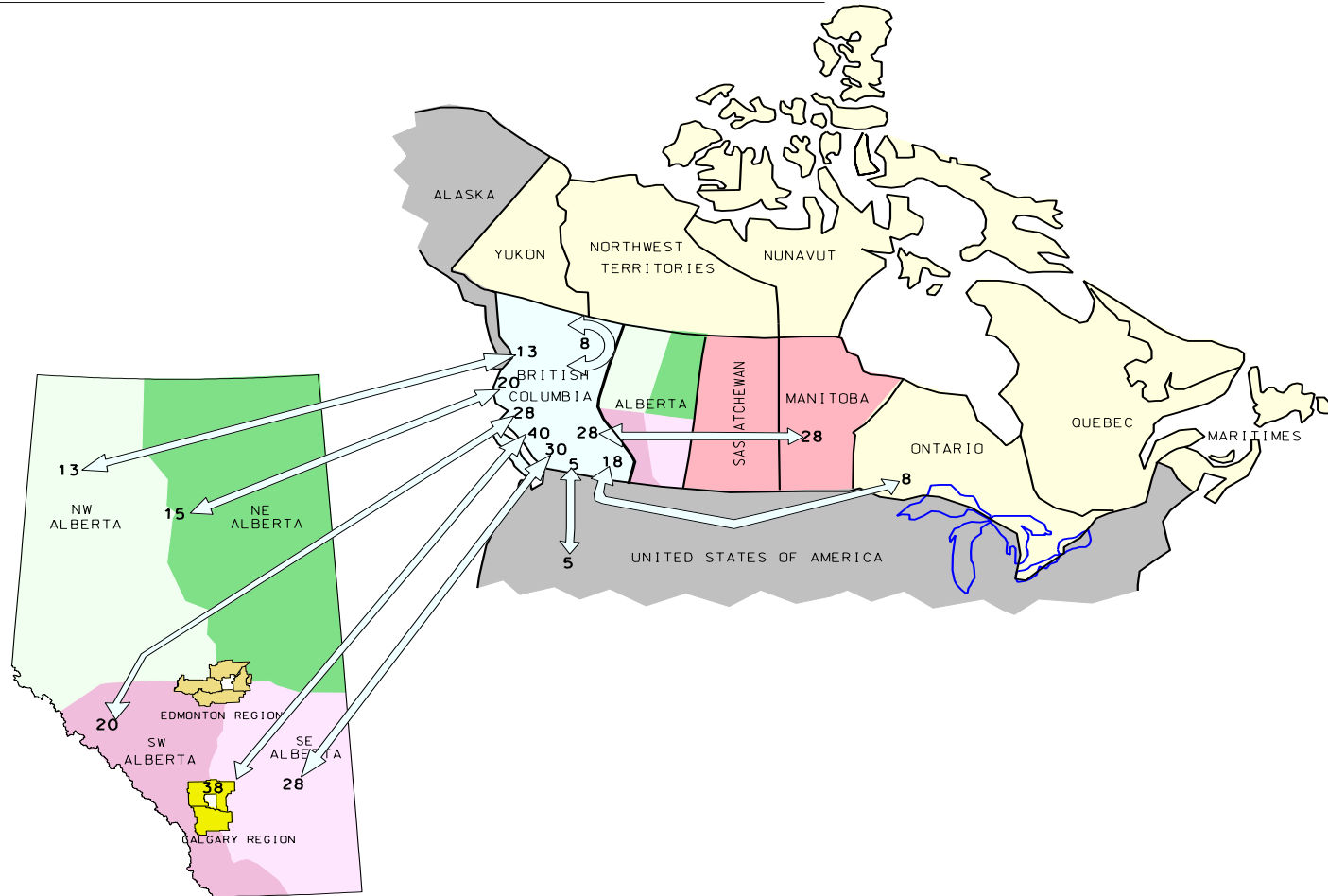
WEEKDAY 24 HR DAILY COMMODITY TRIPS TO / FROM SOUTHWESTERN ALBERTA



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Commodity Trips To/From British Columbia

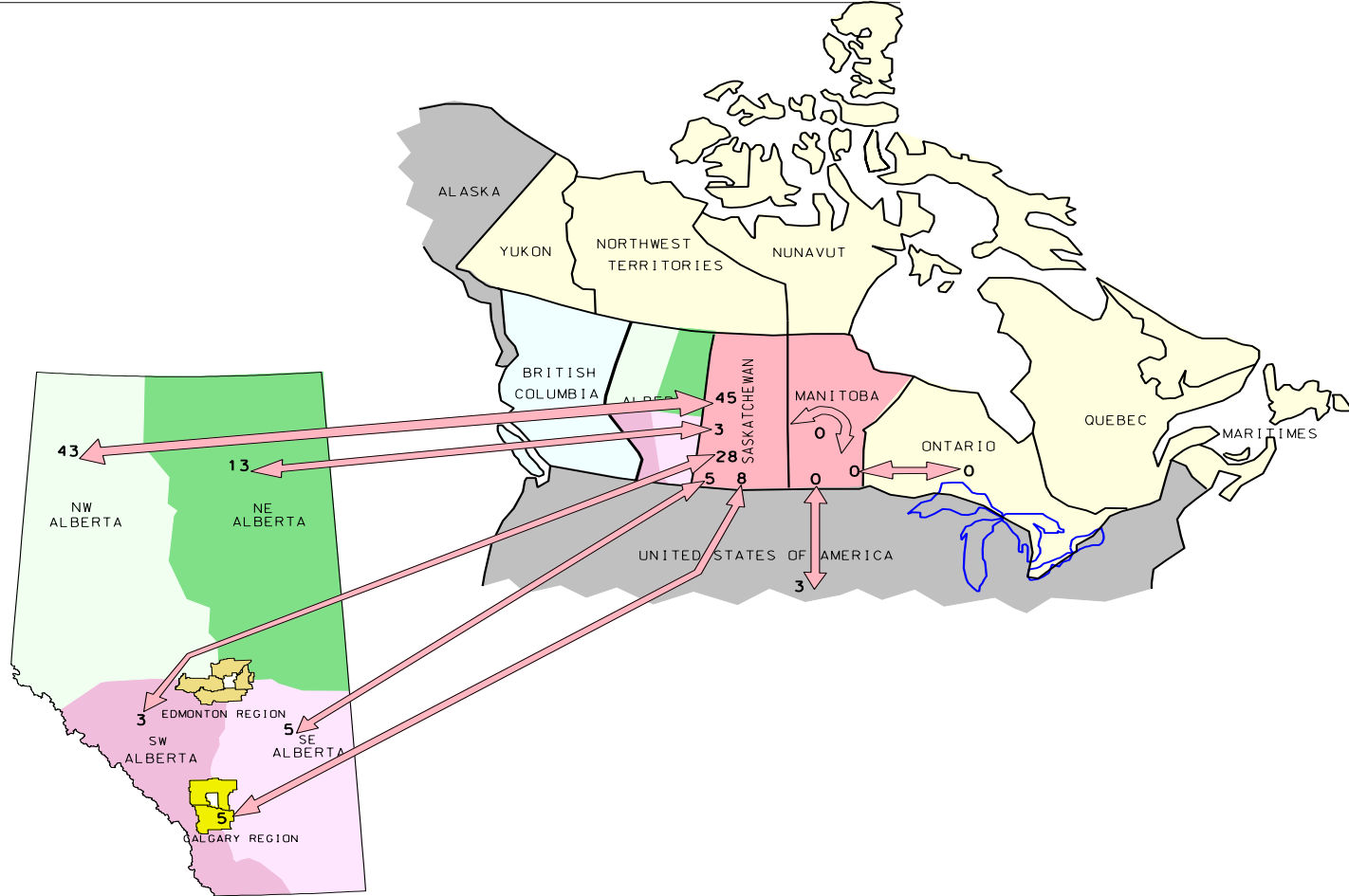
WEEKDAY 24 HR DAILY COMMODITY TRIPS TO / FROM BRITISH COLUMBIA



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Commodity Trips To/From Saskatchewan / Manitoba

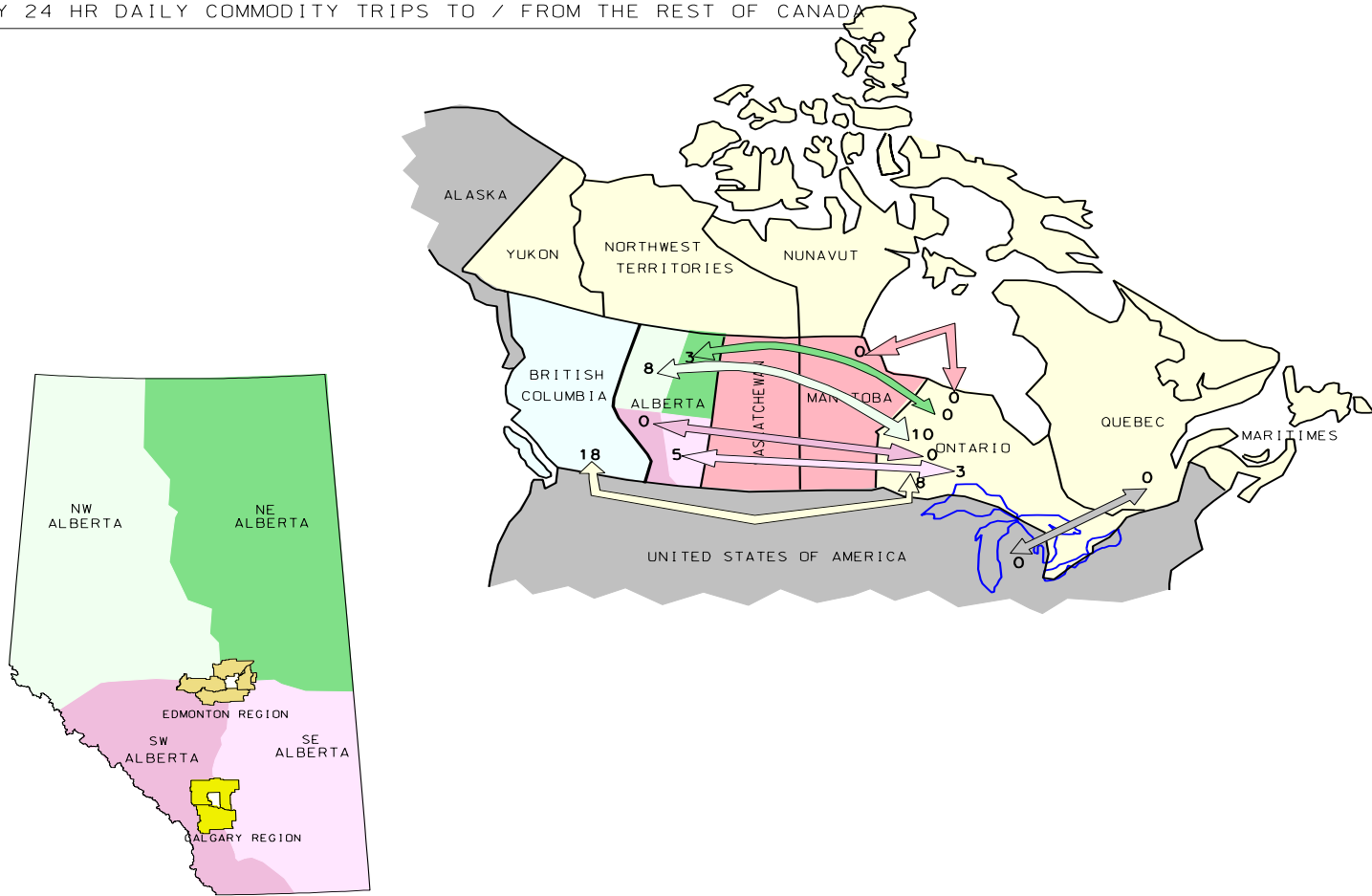
WEEKDAY 24 HR DAILY COMMODITY TRIPS TO / FROM SASKATCHEWAN/MANITOBA



Edmonton Region External Truck Commodity Survey

Commodity Trips To/From Rest of Canada

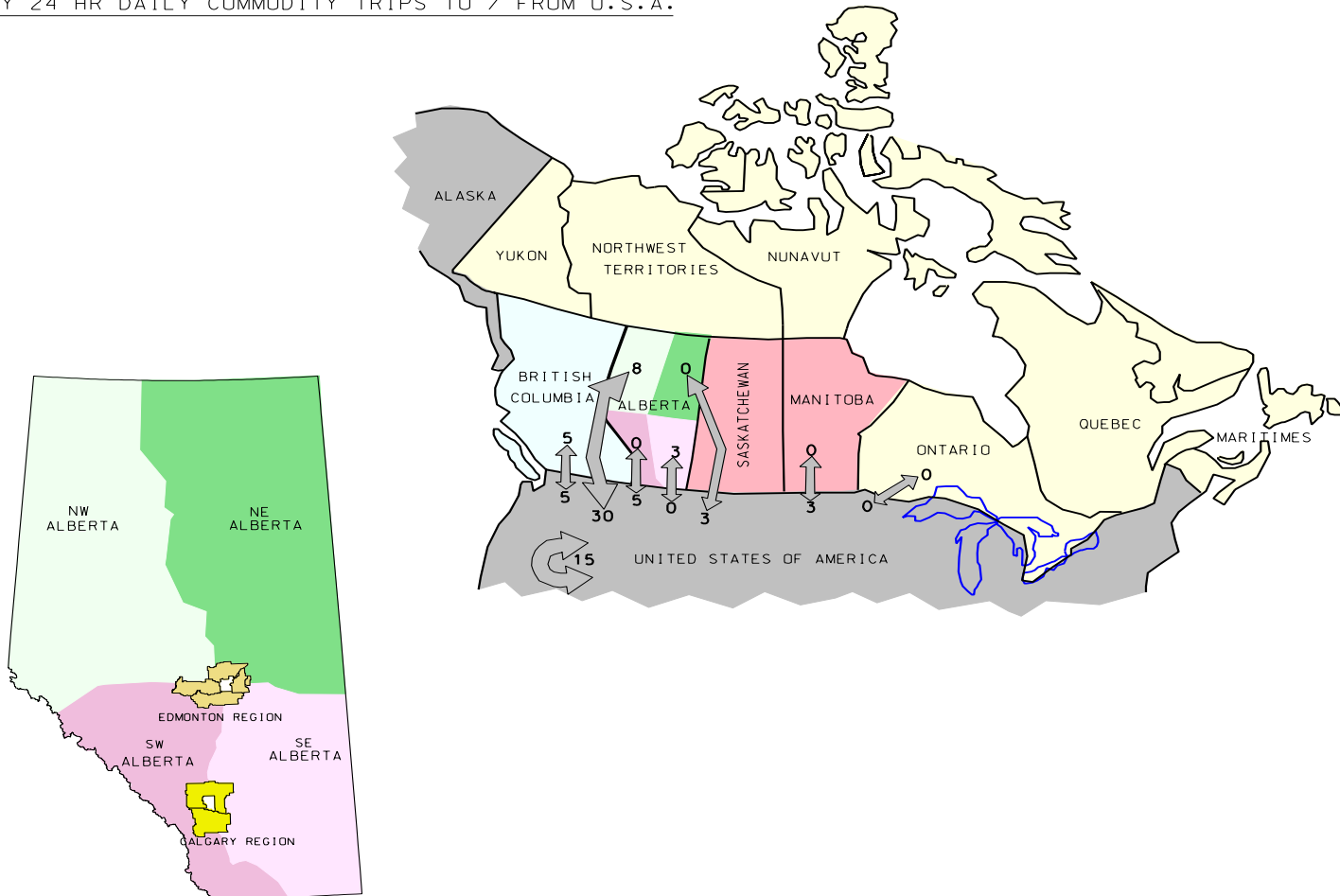
WEEKDAY 24 HR DAILY COMMODITY TRIPS TO / FROM THE REST OF CANADA



Edmonton Region External Truck Commodity Survey

Commodity Trips To/From United States

WEEKDAY 24 HR DAILY COMMODITY TRIPS TO / FROM U.S.A.



Edmonton Region External Truck Commodity Survey

Uses of Truck Travel Data

- Truck Travel Model Development and Air Quality
- Corridor / Route Analysis
- Intermodal Freight Planning
- Pavement Management Planning

Edmonton Region External Truck Commodity Survey

Factors Influencing Freight Movements & Impacts of Freight Movements

- The Economy
- Traffic Management and Design for Trucks
 - Congestion
 - Road Network Deficiencies
- Reducing Environmental Impacts
 - Noise Reductions
 - Emissions
- Impacts on Urban Structure
 - Business Location
 - Network Planning
- Intelligent Transportation Systems

Edmonton Region External Truck Commodity Survey

Truck Travel Model Development

- Truck trip generation
- Origin and Destination analysis
- Route assignments
- Congestion, speed, and travel time analysis

Edmonton Region External Truck Commodity Survey

Corridor / Route Analysis

- Evaluate route/corridor traffic management proposals for freight impacts
- Provide information on truck travel to formulate traffic management plans during roadway construction
- Assess impact of truck route reassignments or closures

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Air Quality Modeling

- Estimate truck emissions

Intermodal Freight Planning

- Facilitate seaport planning
- Facilitate airport planning
- Understand competition and demand of different freight modes

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Pavement Management Planning

- Evaluate and design road geometrics
- Help calibrate pavement deterioration models

Truck Restrictions and Enforcement

- Route restriction analysis
- Dangerous goods movement regulation and enforcement analyses
- Truck driver safety programs

Edmonton Region External Truck Commodity Survey

Facilitate Public-Private Partnership

- Open dialogue with private freight industries in gathering data
- Provide truck travel data to public and the freight industry for research and analysis
- Freight-economic analysis