

# **TRANSPORTATION**

## **Appendix 21-C1**

### **Percent New Trips Data**

**St. Johns County – Table 1**

**Table 1**  
**St. Johns County P.M. Peak Hour Trip Rate and Percent New Trips Data**

ITE Land Use Code	Land Use Description	Independent Variable	P.M. Peak Hour Trip End Estimation Method	Land Use Maximum Size Threshold By Unit			Percentage New Trips
				Small < 4.00 PHT Trips	Minor 4.00 to 29.99 PHT Trips	Major (LDTA) >= 30.00 PHT Trips	
022	General Aviation Airport	Average Flights Per Day	0.30	13	99	> 99	90%
110	General Light Industrial < 150,000 sf GFA	1,000 sf GFA	0.98	4,000	30,607	> 30,607	92%
110	General Light Industrial > or = 150,000 sf GFA	1,000 sf GFA	T = 1.43 (X) - 163.42	N/A	N/A	> 0	92%
130	Industrial Park	1,000 sf GFA	T=0.77(X)+42.11	N/A	N/A	> 0	92%
140	Manufacturing	1,000 sf GFA	T = 0.78 (X) - 12.89	N/A	54,980	> 54,980	92%
150	Warehousing	1,000 sf GFA	Ln(T)=0.79*Ln(X)+0.54	N/A	37,300	> 37,300	92%
151	Mini-Warehousing	1,000 sf GFA	Ln(T)=1.02*Ln(X)-1.49	16,700	120,900	> 120,900	92%
210	Single Family Detached Housing	Dwelling Units	Ln(T)=0.90*Ln(X)+0.53	2	24	> 24	100%
220	Apartment	Dwelling Units	T = 0.55 (X) + 17.65	N/A	22	> 22	100%
230	Residential Condominium/Townhouse	Dwelling Units	Ln(T)=0.82*Ln(X)+0.32	3	42	> 42	100%
240	Mobile Home Park	Occupied Dwelling	T=0.57(X)+2.06	3	49	> 49	100%
253	Congregate Care Facility	Occupied Dwelling	0.17	23	176	> 176	74%
254	Assisted Living	Beds	0.22	18	136	> 136	100%
270	Residential Planned Unit Development (PUD)	Dwelling Units	Ln(T)=0.90*Ln(X)+0.27	3	32	> 32	100%
310	Hotel	Occupied Rooms	Ln(T)=1.20*Ln(X)-1.55	N/A	61	> 61	71%
311	All-Suites Hotel	Occupied Rooms	0.55	N/A	54	> 54	71%
320	Motel	Occupied Rooms	T = 0.53 (X) + 5.95	N/A	45	> 45	59%
330	Resort Hotel	Occupied Rooms	Ln(T)=1.13*Ln(X)-1.52	N/A	77	> 77	75%
412	County Park	Acres	0.06	66	499	> 499	90%
416	Campground/Recreational Vehicle Park	Occupied Camp Sites	0.37	10	81	> 81	90%
417	Regional Park	Acres	0.20	19	149	> 149	90%
420	Marina	Berths	0.19	21	157	> 157	90%
430	Golf Course	Acres	T = 0.13 (X) + 31.30	N/A	N/A	> 0	90%
432	Golf Driving Range	Driving Positions	1.25	3	23	> 23	75%
437	Bowling Alley	1,000 sf GFA	3.13	N/A	9,582	> 9,582	75%
444	Movie Theatre with Matinee	Movie Screens	45.91	N/A	N/A	> 0	85%
492	Health/Fitness Club	1,000 sf GFA	4.05	N/A	7,405	> 7,405	75%
520	Elementary School	1,000 sf GFA	3.13	N/A	9,582	> 9,582	80%
530	High School	1,000 sf GFA	0.97	N/A	30,918	> 30,918	90%
540	Junior/Community College	1,000 sf GFA	2.54	N/A	11,807	> 11,807	90%
550	University/College	Students	T = 0.19 (X) + 125.35	N/A	N/A	> 0	90%
560	Church (without school)	1,000 sf GFA	0.66	6,053	45,446	> 45,446	90%
565	Day Care Center	1,000 sf GFA	Ln(T)=0.67*Ln(X)+3.02	N/A	1,765	> 1,765	74%
590	Library	1,000 sf GFA	7.09	N/A	4,230	> 4,230	90%
610	Hospital	1,000 sf GFA	1.18	N/A	25,415	> 25,415	77%
620	Nursing Home	1,000 sf GFA	0.42	9,500	71,405	> 71,405	75%
630	Clinic	1,000 sf GFA	5.18	N/A	5,790	> 5,790	92%
710	General Office Building < 21,000 sf GFA	1,000 sf GFA	1.49	2,681	20,130	> 20,130	92%
710	General Office Building > or = 21,000 sf GFA	1,000 sf GFA	T = 1.12 (X) + 78.81	N/A	N/A	> 21,000	92%
720	Medical/Dental Office Building	1,000 sf GFA	Ln(T)=0.93*Ln(X)+1.47	N/A	7,974	> 7,974	77%
732	United States Post Office	1,000 sf GFA	10.89	N/A	2,754	> 2,754	25%
750	Office Park	1,000 sf GFA	T = 1.21 (X) + 106.22	N/A	N/A	> 0	92%
760	Research and Development Centers	1,000 sf GFA	Ln(T)=0.83*Ln(X)+1.06	N/A	16,782	> 16,782	92%
770	Business Park	1,000 sf GFA	Ln(T)=0.92*Ln(X)+0.78	N/A	17,266	> 17,266	92%
813	Free-Standing Discount Superstore	1,000 sf GFA	3.87	N/A	7,749	> 7,749	61%
814	Specialty Retail Center	1,000 sf GFA	2.71	N/A	11,066	> 11,066	50%
815	Free-Standing Discount Store	1,000 sf GFA	5.06	N/A	5,927	> 5,927	83%
820	Shopping Center	1,000 sf GFA	Ln(T)=0.66*Ln(X)+3.40	N/A	N/A	> 0	Equation
823	Factory Outlet Center	1,000 sf GFA	Ln(T)=0.43*Ln(X)+3.68	N/A	N/A	> 0	Equation
843	Automobile Parts Sales	1,000 sf GFA	T = 7.87 (X) - 14.86	2,395	5,699	> 5,699	72%
848	Tire Store	Service Bays	3.79	1	7	> 7	72%
849	Tire Superstore	Service Bays	3.17	1	9	> 9	72%
850	Supermarket	1,000 sf GFA	Ln(T)=0.79*Ln(X)+3.20	N/A	1,290	> 1,290	64%
851	Convenience Market (Open 24 Hours)	1,000 sf GFA	52.41	N/A	N/A	> 0	39%
853	Convenience Market with Gasoline Pumps	Vehicle Fueling Positions	19.22	N/A	1	> 1	34%
861	Discount Club	1,000 sf GFA	4.24	N/A	7,073	> 7,073	83%
862	Home Improvement Superstore	1,000 sf GFA	2.45	N/A	12,240	> 12,240	52%
863	Electronics Superstore	1,000 sf GFA	4.50	N/A	6,665	> 6,665	60%
880	Pharmacy/Drugstore without Drive-Through Window	1,000 sf GFA	8.42	N/A	3,562	> 3,562	47%
881	Pharmacy/Drugstore with Drive-Through Window	1,000 sf GFA	8.62	N/A	3,479	> 3,479	51%
890	Furniture Store	1,000 sf GFA	0.46	8,674	65,196	> 65,196	47%
896	Video Rental Store	1,000 sf GFA	Ln(T)=0.93*Ln(X)+2.61	N/A	2,341	> 2,341	70%
911	Walk-In Bank	1,000 sf GFA	33.15	N/A	N/A	> 0	80%
912	Drive-In Bank	Drive-In Windows	51.08	N/A	N/A	> 0	53%
931	Quality Restaurant	1,000 sf GFA	7.49	N/A	4,004	> 4,004	56%
932	High-Turnover (Sit-Down) Restaurant	1,000 sf GFA	10.92	N/A	2,746	> 2,746	57%
933	Fast-Food Restaurant without Drive-Through Window	1,000 sf GFA	26.15	N/A	1,147	> 1,147	57%
934	Fast-Food Restaurant with Drive-Through Window	1,000 sf GFA	34.64	N/A	N/A	> 0	50%
935	Fast-Food Restaurant with Drive-Through & No Indoor Seating	1,000 sf GFA	153.85	N/A	N/A	> 0	50%
936	Drinking Place	1,000 sf GFA	11.34	N/A	2,645	> 2,645	56%
941	Quick Lubrication Vehicle Shop	Service Positions	5.19	N/A	5	> 5	72%
945	Gasoline/Service Station with Convenience Market	Vehicle Fueling Positions	13.38	N/A	2	> 2	23%
947	Self-Service Car Wash	Wash Stalls	5.54	N/A	5	> 5	67%
N/A	Auto Repair/Detailing Center (a)	1,000 sf GFA	2.75	1,452	10,907	> 10,907	83%
N/A	Veterinary Clinic (b)	1,000 sf GFA	5.54	N/A	5,414	> 5,414	70%

Sources:

- Institute of Transportation Engineers, Trip Generation, Seventh Edition, 2003.
- Institute of Transportation Engineers, Trip Generation, Sixth Edition, 1997.
- Institute of Transportation Engineers, Trip Generation, Fifth Edition, 1991.
- Institute of Transportation Engineers, Trip Generation Handbook, 1998.
- Tindale, Oliver & Associates, Inc.

Notes:

- a Land Use 843 peak hour rate (5.98) divided by daily rate (61.91) produces a peak-to-daily ratio of 0.097. Auto Repair/Detailing Center daily rate (28.40) multiplied by 0.097 produces a 2.75 peak hour average rate
- b Land Use 630 peak hour rate (1.31) divided by daily rate (7.75) produces a peak-to-daily ratio of 0.169. Veterinary Clinic daily rate (32.80) multiplied by 0.169 produces a 5.54 peak hour average rate