Industry Traffic & Capacity Worksheet

Purpose: This Waybill Tab will fleet.	help dete	ermine 1) number of waybills per car type needed based upon car capacity at each on-line industry, car type distribution for the permanent
Last Revised: 07/23/13	RBS	Refined Oroville spots and counts
Last Revised: 07/23/13	RBS	Separated interchange locations from other on-line industries
Last Revised: 07/17/13	RBS	Created new waybill distribution Tab

Waybill Distribution for On-line Industries

Car Type

				Tab	le 1 Waybill	Distribution fo	or On-line Ind	lustries														
Industry (On-Line)	Coi	nmodity Shipped (S) or Received (R)	Car Ca	pacity	Car Capacity for Waybill Planning 40ft-50ft Avg.	% of spotted cars to be "Held" until next op session	Number of cars pulled each op session	# of Waybills Needed (2 * Car Capacity)	Sum by Type (Location)	хм	ХА	нм	LO	LT	GS	ТА	тм	RS	RM	FM	FB	SM
			40's	50's		50%																
Keddie																						
Loco Shops	R	Stores, pipe , fittings, paint,	1	1	1		0.5	2	2	1.0					1.0							
Loco Service	R	Fuel oil, lubricants, sand,	2	2	2		1	3	3				1.0				2.0					
House Track	S/R	RPO?	2	1	1.5		0.75	3	3	2.0	1.0											
		Total Car Spots and Waybills Needed			4.5		2	8	8	3.0	1.0	0.0	1.0	0.0	1.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Reno																						
Freight House	S/R	Mixed freight, boxed (S/R)	5	4	4.5		2.25	7	7	5.0										2.0		
Reno (Pierson) Lumber	R	Lumber, Hardware (S/R)	3	2	2.5		1.25	4	4	2.0										1.0	1.0	
		Total Car Spots and Waybills Needed			7		4	11	11	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	1.0	0.0
Quincy																						
Sierra Pacific Industries	S	Lumber	3	2	2.5		1.25	4	4	2.0										2.0		
Homestead Mills	S	Lumber, Plywood	3	2	2.5		1.25	4	4	1.0	1.0									2.0		
California Packing	S/R	Ship fruit (apples, peaches) rec boxes, packing paper	2	2	2		1	3	3	1.0								2.0				
Stockyards	S/R	Cattle	1	1	1		0.5	2	2													2.0
Enginehouse	R	Fuel oil, machinery,	1	1	1		0.5	2	2								2.0					
Oil Distributers	R	Gasoline, Diesel, Fuel Oil	3	2	2.5		1.25	4	4								4.0					
Warehouse/loading dock	R	Mixed Freight, vehicles, lumber	3	2	2.5		1.25	4	4	3.0	1.0											
		Total Car Spots and Waybills Needed			14		7	23	23	7.0	2.0	0.0	0.0	0.0	0.0	0.0	6.0	2.0	0.0	4.0	0.0	2.0
Sacramento																						
Loco Shops-Roundhouse	R	Stores, pipe , fittings, paint,	2	2	2.0		1.0	3	3	3.0												
Diesel Shops	R	Stores, pipe , fittings, paint,	2	2	2.0		1.0	3	3	3.0	0.0											
Loco Service- Sand, Fuel	R	Fuel oil, lubricants, sand,	2	2	2.0		1.0	3	3			1.0	1.0				1.0					
		Total Car Spots and Waybills Needed			6		3	9	9	6.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
West Oakland																						
Swift & Company	R	frozen: poultry, ham, meat, sausage	3	3	3		1.5	5	5	0.0									5.0			
Newport Soap	R	Cottonseed oil, cake, tallow, borax, packing mats	2	2	2		1	3	3	1.0			1.5			0.5						
Newport Soap	S	Soap	2	2	2		1	3	3	3.0												
Peterbilt- Track 1	R	truck parts, machinery	3	3	3		1.5	5	5	1.0	4.0					1				0.0		
Peterbilt- Track 2	S	Trucks	3	3	3		1.5	5	5		2.0									3.0		
Key Pipe & Supply	R	Steel Pipe (S/R)	2	2	2		1	3	3	0.0					2.0					1.0		
Schnitzer Steel	S	Scrap Metal (S/R)	2	2	2		1	3	3						2.0					1.0		
Setout	R	All car Types (S/R)	?	?				0	0													
		Total Car Spots and Waybills Needed			17		9	27	27	5.0	6.0	0.0	1.5	0.0	4.0	0.5	0.0	0.0	5.0	5.0	0.0	0.0
																1	1 -		1	1	1	

Industry	Commodity Shipped (S) or Received (R)	Car Ca	apacity	Average		Cars Pulled	# Waybills	1		Ĩ					, '	ı F		1	1	1	
		40's	50's			Curo r unou	" Hujuno									ł		('			+
Oakland Pier																					1
Albers Mill	R Wheat, Corn, feed (S/R)	6	6	6	<u> </u>	3	9	9	6.0				3.0		!				<u> </u>		+
Naval Supply Center Track 1	R Tires, tractors, canned food, toilet paper	4	3	3.5		1 75	6	6	6.0							ł		('			+
Naval Supply Center Track 2	R Military rations, hospital supplies, tents, etc.	4	3	3.5		1 75	6	6	6.0	0.0						ł		('			+
Naval Supply Center Track 3	R	4	3	3.5		1.75	6	6	0.0	4.0									2.0		1
Naval Supply Center Track 4	R	4	3	3.5		1.75	6	6	6.0							ł		('			+
Fuel pad	R Fuel Oil	1	1	1	1	0.5	2	2	0.0							2.0			<u> </u>		+
Rwy Exprs Agency (REA)	R Expedited freight, mail, (S/R)	2	2	2		1	3	3	3.0												1
, , , , , , , , , , , , , , , , , , , ,	Total Car Spots and Waybills Needed			23		12	38	38	27.0	4.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
							00												<u> </u>		
Martinez																I				<u> </u>	-
Western Plywood	S Plywood (S) Lumber (R) Glue in drums (R)	3	3	3		15	5	5	3.0						<u> </u>				1.0	1.0	-
Concrete Dock- Team track	R Various commodities (S/R) Lumber vehicles crated mach	ir 1	1	1		0.5	2	2	2.0							I			0.0	0.0	-
Albambra Water	S Bottled Water (S) Bottles (B) packing materials (B)	1	1	1	1	0.5	2	2	2.0							I		·'	0.0	0.0	-
TOSCO Refinery- North Dock	S Diesel Fuel LPG Gasoline Fuel Oil	3	2	2.5	1	1.25	2	2	2.0							4.0		·'	+		-
TOSCO Refinery- South Dock	S Caustic Soda Alkali Liquids Sulfide Waste	3	2	2.5	1	1.25	4	4							2.0	4.0		·'	+		-
	Total Car Spots and Waybills Needed	U	-	10	-	1.25	4	4	7.0					0.0	2.0	2.0		0.0	10	10	
	Total Cal Spots and Waybins Needed			10		5	17	17	7.0	0.0	0.0	0.0	0.0	0.0	2.0	6.0	0.0	0.0	1.0	1.0	0.0
Inductor	Commedity Shinned (S) or Reserved (B)	Car Ca	nooitu												<u> </u>		┝──┤	<u> </u>	──	<u> </u>	+
Industry	Commodity Shipped (S) or Received (R)		apacity												\vdash		┥──┤	<u> </u>	──	—	_
Devie		40 5	50 5						-						L	I	┝──┤	<u> </u>		┝──	+
Davis		4		2.5		. ==											\vdash	<u> </u>	──	<u> </u>	_
westwye	S/R Davis & Thru cars to woodland	4	3	3.5		1.75	6	6	1.0	2.0					0.0	2.0		1.0	──	—	_
East Wye (not used)	S/R Davis & Thru cars to Woodland	4	3	3.5	-	1.75	6	6	1.0				3.0		0.0	0.0	2.0	<u> </u>		<u> </u>	_
Setout	S/R Davis & Thru cars to Woodland	?	?				0								\vdash	J	$ \longrightarrow $	<u> </u>	—	┝──	_
	Total Car Spots and Waybills Needed			7		4	12	12	2.0	2.0	0.0	0.0	3.0	0.0	0.0	2.0	2.0	1.0	0.0	0.0	0.0
																		_			
				-																	_
Industry	Commodity Shipped (S) or Received (R)	Car Ca	apacity	Average		Cars Pulled	# Waybills														
Industry	Commodity Shipped (S) or Received (R)	Car Ca 40's	apacity 50's	Average		Cars Pulled	# Waybills														
Industry Oroville, CA	Commodity Shipped (S) or Received (R)	Car Ca 40's	apacity 50's	Average		Cars Pulled	# Waybills														
Industry Oroville, CA Oroville: East- South	Commodity Shipped (S) or Received (R)	Car Ca 40's	apacity 50's	Average		Cars Pulled	# Waybills														
Industry Oroville, CA Oroville: East- South Coach	Commodity Shipped (S) or Received (R)	Car Ca 40's	apacity 50's	Average 1		Cars Pulled	# Waybills	2						1.0					1.0		
Industry Oroville, CA Oroville: East- South Coach Freight House	Commodity Shipped (S) or Received (R) R Mail, Business car, baggage, cars needing crane for unloading: GS, FM R Mixed freight (S/R)	Car Ca 40's	apacity 50's 1	Average		Cars Pulled	# Waybills	2	2.0	1.0				1.0					1.0		
Industry Oroville, CA Oroville: East- South Coach Freight House Team	Commodity Shipped (S) or Received (R) Commodity Shipped (S) or Received (R) Kall, Business car, baggage, cars needing crane for unloading: GS, FM R Mixed freight (S/R) R Mixed freight (S/R)	Car Ca 40's	apacity 50's 1 1	Average		Cars Pulled	# Waybills	2 3 3	2.0	1.0				1.0					1.0		
Industry Oroville, CA Oroville: East- South Coach Freight House Team	Commodity Shipped (S) or Received (R) Commodity Shipped (S) or Received (R) R Mail, Business car, baggage, cars needing crane for unloading: GS, FM R Mixed freight (S/R) R Mixed freight (S/R)	Car Ca 40's	apacity 50's 1 1 1	Average 1 1.5 1.5		Cars Pulled Cars Pulled 0.5 0.75 0.75	# Waybills 2 3 3 3	2 3 3	2.0	1.0				1.0					1.0		
Industry Oroville, CA Oroville: East- South Coach Freight House Team Oroville: West- South	Commodity Shipped (S) or Received (R) Commodity Shipped (S) or Received (R) R Mail, Business car, baggage, cars needing crane for unloading: GS, FM R Mixed freight (S/R) R Mixed freight (S/R)	Car Ca 40's 1 2 2	apacity 50's 1 1 1	Average 1 1.5 1.5		Cars Pulled Cars P	# Waybills 2 3 3 3	2 3 3	2.0	1.0				1.0					1.0		
Industry Oroville, CA Oroville: East- South Coach Freight House Team Oroville: West- South	Commodity Shipped (S) or Received (R) Commodity Shipped (S) or Received (R) R Mail, Business car, baggage, cars needing crane for unloading: GS, FM R Mixed freight (S/R) R Mixed freight (S/R)	Car Ca 40's 1 2 2	apacity 50's 1 1 1	Average 1 1.5 1.5		Cars Pulled Cars P	# Waybills 2 3 3	2 3 3	2.0	1.0				1.0					1.0		
Industry Oroville, CA Oroville: East- South Coach Freight House Team Oroville: West- South Mt Ida Packing	Commodity Shipped (S) or Received (R) Commodity Shipped (S) or Received (R) R Mail, Business car, baggage, cars needing crane for unloading: GS, FM R Mixed freight (S/R)	Car Ca 40's 1 2 2	apacity 50's 1 1 1	Average 1 1.5 1.5		Cars Pulled Cars P	# Waybills 2 3 3 3	2 3 3 1	2.0 1.0	1.0				1.0					1.0		
Industry Oroville, CA Oroville: East- South Coach Freight House Team Oroville: West- South Mt Ida Packing Mt Ida Packing	Commodity Shipped (S) or Received (R) Commodity Shipped (S) or Received (R) Mail, Business car, baggage, cars needing crane for unloading: GS, FM R Mixed freight (S/R) R Mixed freight (S/R) R Mixed freight (S/R) R Packing materials, wrapping paper, labels, and boxes. S Olives Oil	Car Ca 40's 1 2 2 5	apacity 50's 1 1 1 1 4	Average 1 1.5 1.5 4.5		Cars Pulled Cars P	# Waybills 2 3 3 7	2 3 3 1	2.0 1.0 1.0	1.0				1.0					1.0		
Industry Industry Oroville, CA Oroville: East- South Coach Freight House Team Oroville: West- South Mt Ida Packing Mt Ida Packing Mt Ida Packing	Commodity Shipped (S) or Received (R) Commodity Shipped (S) or Received (R) Mail, Business car, baggage, cars needing crane for unloading: GS, FM R Mixed freight (S/R) R Mixed freight (S/R) R Packing materials, wrapping paper, labels, and boxes. S Olives, Oil S	Car Ca 40's 1 2 2 5	apacity 50's 1 1 1 1 4	Average 1 1 1.5 1.5 4.5		Cars Pulled Cars P	# Waybills 2 2 3 3 7 7	2 3 3 1 1 5	2.0 1.0 1.0	1.0				1.0			50		1.0		
Industry Industry Oroville, CA Oroville: East- South Coach Freight House Team Oroville: West- South Mt Ida Packing Mt Ida Packing Mt Ida Packing Mt Ida Packing	Commodity Shipped (S) or Received (R) Commodity Shipped (S) or Received (R) Mail, Business car, baggage, cars needing crane for unloading: GS, FM R Mixed freight (S/R) S Olives, Oil S Produce for eastern markets (fresh fruit & vegetables)	Car Ca 40's 1 2 2 2 5	apacity 50's 1 1 1 1 4	Average 1 1 1.5 1.5 4.5		Cars Pulled Cars P	# Waybills 2 3 3 7 7	2 3 3 3 1 1 5	2.0 1.0 1.0 1.0	1.0				1.0			5.0		1.0		
Industry Industry Oroville, CA Oroville: East- South Coach Freight House Team Oroville: West- South Mt Ida Packing Mt Ida Packing Mt Ida Packing Oroville: West- North	Commodity Shipped (S) or Received (R) Commodity Shipped (S) or Received (R) R Mail, Business car, baggage, cars needing crane for unloading: GS, FM R Mixed freight (S/R) R Mixed freight (S/R) R Mixed freight (S/R) R Packing materials, wrapping paper, labels, and boxes. S Olives, Oil S Produce for eastern markets (fresh fruit & vegetables)	Car Ca 40's 1 2 2 2 5	apacity 50's 1 1 1 1 4	Average 1 1 1.5 1.5 4.5		Cars Pulled Cars P	# Waybills 2 3 3 7 7	2 3 3 3 1 1 5	2.0 1.0 1.0 1.0	1.0				1.0			5.0		1.0		
Industry Oroville, CA Oroville: East- South Coach Freight House Team Oroville: West- South Mt Ida Packing Mt Ida Packing Mt Ida Packing Oroville: West- North Oroville: West- North	Commodity Shipped (S) or Received (R) Commodity Shipped (S) or Received (R) Mail, Business car, baggage, cars needing crane for unloading: GS, FM R Mixed freight (S/R) R Mixed freight (S/R) R Mixed freight (S/R) R Packing materials, wrapping paper, labels, and boxes. S Olives, Oil S Produce for eastern markets (fresh fruit & vegetables) Packing materials, cans, boxes, labels, machinery, sugar	Car Ca 40's 1 2 2 5	apacity 50's 1 1 1 1 1 4	Average 1 1 1.5 1.5 4.5		Cars Pulled Cars P	# Waybills 2 3 3 7 7	2 3 3 3 1 1 5	2.0 1.0 1.0 1.0	1.0				1.0			5.0		1.0		
Industry Oroville, CA Oroville: East- South Coach Freight House Team Oroville: West- South Mt Ida Packing Mt Ida Packing Mt Ida Packing Oroville: West- North Stokely Van Camp (Blg 9)	Commodity Shipped (S) or Received (R) Commodity Shipped (S) or Received (R) Rived freight (R) or Received (R	Car Ca 40's 1 2 2 5	50°s	Average 1 1 1.5 1.5 4.5		Cars Pulled Cars P	# Waybills 2 2 3 3 7 7 6	2 3 3 1 1 5	2.0 1.0 1.0 1.0 2.0	1.0				1.0	1.0	0.5	5.0		1.0		
Industry Industry Oroville, CA Oroville: East- South Coach Freight House Team Oroville: West- South Mt Ida Packing Mt Ida Packing Mt Ida Packing Oroville: West- North Stokely Van Camp (Blg 9) Stokely Van Camp (Blg 9)	Commodity Shipped (S) or Received (R) Commodity Shipped (S) or Received (R) Mail, Business car, baggage, cars needing crane for unloading: GS, FM R Maik dreight (S/R) R Mixed freight (S/R) R Mixed freight (S/R) R Packing materials, wrapping paper, labels, and boxes. S Olives, Oil S Produce for eastern markets (fresh fruit & vegetables) R Packing materials, cans, boxes, labels, machinery, sugar, vinegar S Canned fruit and venetables/fresh produce	Car Ca 40's 1 2 2 5	50's 50's 1 1 1 1 4 3	Average 1 1 1.5 1.5 4.5 3.5		Cars Pulled Cars P	# Waybills 2 2 3 3 7 7 6	2 3 3 1 1 5 4	2.0 1.0 1.0 1.0 2.0	1.0				1.0		0.5	5.0		1.0		
Industry Industry Oroville, CA Oroville: East- South Coach Freight House Team Oroville: West- South It Ida Packing Mt Ida Packing Mt Ida Packing Oroville: West- North Stokely Van Camp (Blg 9) Stokely Van Camp (Blg 9)	Commodity Shipped (S) or Received (R) Commodity Shipped (S) or Received (R) Rivel of the second of t	Car Ca 40's 1 2 2 5	apacity 50's 1 1 1 1 4 4	Average 1 1 1.5 1.5 4.5 3.5		Cars Pulled Cars P	# Waybills 2 2 3 3 7 7 6	2 3 3 3 1 1 5	2.0 1.0 1.0 2.0	1.0				1.0	1.0	0.5	5.0				
Industry Industry Oroville, CA Oroville: East- South Coach Freight House Team Oroville: West- South Mt Ida Packing Mt Ida Packing Mt Ida Packing Oroville: West- North Stokely Van Camp (Blg 9) Stokely Van Camp (Blg 9) Stokely Van Camp (Blg 12)	Commotity Shipped (S) or Received (R) Commotity Shipped (S) or Received (R) Commotity Shipped (S) or Received (R) Mail, Business car, baggage, cars needing crane for unloading: GS, FM R Maixed freight (S/R) R Mixed freight (S/R) R Mixed freight (S/R) R Packing materials, wrapping paper, labels, and boxes. S Olives, Oil S Produce for eastern markets (fresh fruit & vegetables) R Packing materials, cans, boxes, labels, machinery, sugar, vinegar S Canned fruit and vegetables/fresh produce R Packing materials, cans, boxes, labels, machinery, sugar, vinegar	Car Ca 40's 1 1 2 2 5 5	apacity 50's 50's 10's 10's 10's 10's 10's 10's 10's 1	Average 1 1 1.5 1.5 4.5 3.5 2.5		Cars Pulled Cars P	# Waybills 2 2 3 3 7 7 6 4	2 3 3 1 1 5 4 3 3	2.0 1.0 1.0 2.0 2.0	1.0				1.0		0.5	5.0				
Industry Oroville, CA Oroville: East- South Coach Freight House Team Oroville: West- South Mt Ida Packing Mt Ida Packing Mt Ida Packing Oroville: West- North Stokely Van Camp (Blg 9) Stokely Van Camp (Blg 12) Stokely Van Camp (Blg 12)	Commodity Shipped (S) or Received (R) Commodity Shipped (S) or Received (R) Mail, Business car, baggage, cars needing crane for unloading: GS, FM R Maixed freight (S/R) R Mixed freight (S/R) R Mixed freight (S/R) R Packing materials, wrapping paper, labels, and boxes. S Olives, Oil S Produce for eastern markets (fresh fruit & vegetables) R Packing materials, cans, boxes, labels, machinery, sugar, vinegar S Canned fruit and vegetables/fresh produce R Packing materials, cans, boxes, labels, machinery, sugar, vinegar S Canned fruit and vegetables/fresh produce R Packing materials, cans, boxes, labels, machinery, sugar, vinegar S Canned fruit and vegetables/fresh produce	Car Ca 40's 1 2 2 5 5	spacity 50's 1 1 1 1 1 1 4 4	Average 1 1 1.5 1.5 4.5 3.5 2.5		Cars Pulled Cars P	# Waybills 2 2 3 3 3 7 7 6 4	2 3 3 3 1 1 5 5	2.0 1.0 1.0 2.0 2.0 2.0	1.0				1.0	1.0	0.5	5.0				
Industry Industry Oroville, CA Oroville: East- South Coach Freight House Team Oroville: West- South It lda Packing Mt Ida Packing Mt Ida Packing It Ida Packing Oroville: West- North Stokely Van Camp (Blg 9) Stokely Van Camp (Blg 9) Stokely Van Camp (Blg 12) Stokely Van Camp (Blg 12)	Commodity Shipped (S) or Received (R) Commodity Shipped (S) or Received (R) R Mail, Business car, baggage, cars needing crane for unloading: GS, FM R Mixed freight (S/R) R Mixed freight (S/R) R Mixed freight (S/R) R Packing materials, wrapping paper, labels, and boxes. S Olives, Oil S Produce for eastern markets (fresh fruit & vegetables) R Packing materials, cans, boxes, labels, machinery, sugar, vinegar S Canned fruit and vegetables/fresh produce R Packing materials, cans, boxes, labels, machinery, sugar, vinegar S Canned fruit and vegetables/fresh produce R Packing materials, cans, boxes, labels, machinery, sugar, S Canned fruit and vegetables/fresh produce R Packing materials, cans, boxes, labels, machinery, sugar, S Canned fruit and vegetables/fresh produce P Packing materials, cans, boxes, labels, machinery, sugar, S Canned fruit and vegetables/fresh produce P Packing materials, cans, boxes, labels, machinery, sugar, S Canned fruit and vegetables/fresh produce P Packing materials, cans, boxes, labels, machinery, sugar, S Canned fruit and vegetables/fresh produce P Packing materials, cans, boxes, labels, machinery, sugar, S Canned fruit and vegetables/fresh produce P Packing materials, cans, boxes, labels, machinery, sugar, P Packing materials, cans, boxes, labels, machinery, sugar, P Packing materials, cans, boxes, labels, machinery, sugar, P P P P P P P P P P P P P P P P P P P	Car Ca 40's 1 2 2 5 5	apacity 50's 1 1 1 4 4	Average 1 1 1.5 1.5 4.5 3.5 2.5		Cars Pulled Cars P	# Waybills 2 3 3 3 7 7 6 4	2 3 3 3 1 1 5 4 3 3 1	2.0 1.0 1.0 1.0 2.0 2.0	1.0				1.0	1.0	0.5	5.0				
Industry Industry Oroville, CA Oroville: East-South Coach Freight House Team Oroville: West-South Mt Ida Packing Mt Ida Packing Mt Ida Packing Stokely Van Camp (Blg 9) Stokely Van Camp (Blg 9) Stokely Van Camp (Blg 12) Stokely Van Camp (Blg 12) Stokely Van Camp (Blg 12)	Commodity Shipped (S) or Received (R) Commodity Shipped (S) or Received (R) Commodity Shipped (S) or Received (R) R Mail, Business car, baggage, cars needing crane for unloading: GS, FM R Mixed freight (S/R) R Mixed freight (S/R) R Mixed freight (S/R) R Packing materials, wrapping paper, labels, and boxes. S Olives, Oil S Produce for eastern markets (fresh fruit & vegetables) R Packing materials, cans, boxes, labels, machinery, sugar, vinegar S Canned fruit and vegetables/fresh produce R Packing materials, cans, boxes, labels, machinery, sugar, vinegar S Canned fruit and vegetables/fresh produce R Packing materials, cans, boxes, labels, machinery, sugar, vinegar S Canned fruit and vegetables/fresh produce R Packing materials, cans, boxes, labels, machinery, sugar, vinegar	Car Ca 40's 1 1 2 2 5 5	apacity 50's 1 1 1 4 3 2 2 2	Average 1 1 1.5 1.5 4.5 3.5 2.5 2.5		Cars Pulled Cars P	# Waybills 2 3 3 3 7 7 6 4 4	2 3 3 3 1 1 5 4 3 3 1 1	2.0 1.0 1.0 1.0 2.0 2.0	1.0				1.0	1.0	0.5	5.0				
Industry Industry Oroville, CA Oroville: East- South Coach Freight House Team Oroville: West- South Mt Ida Packing Mt Ida Packing Mt Ida Packing Oroville: West- North Stokely Van Camp (Blg 9) Stokely Van Camp (Blg 12) Stokely Van Camp (Blg 16) Stokely Van Camp (Blg 16)	Commodity Shipped (S) or Received (R) Commodity Shipped (S) or Received (R) Mail, Business car, baggage, cars needing crane for unloading: GS, FM R Mixed freight (S/R) R Mixed freight (S/R) R Mixed freight (S/R) R Packing materials, wrapping paper, labels, and boxes. S Olives, Oil S Produce for eastern markets (fresh fruit & vegetables) Packing materials, cans, boxes, labels, machinery, sugar, vinegar S Canned fruit and vegetables/fresh produce R Packing materials, cans, boxes, labels, machinery, sugar, vinegar S Canned fruit and vegetables/fresh produce R Packing materials, cans, boxes, labels, machinery, sugar, vinegar S Canned fruit and vegetables/fresh produce R Packing materials, cans, boxes, labels, machinery, sugar, vinegar S Canned fruit and vegetables/fresh produce R Packing materials, cans, boxes, labels, machinery, sugar, vinegar S Canned fruit and vegetables/fresh produce R Packing materials, cans, boxes, labels, machinery, sugar, S Canned fruit and vegetables/fresh produce R Packing materials, cans, boxes, labels, machinery, sugar, Vinegar S Canned fruit and vegetables/fresh produce R Packing materials, cans, boxes, labels, machinery, sugar, Vinegar S Canned fruit and vegetables/fresh produce R Packing materials, cans, boxes, labels, machinery, sugar, Vinegar S Canned fruit and vegetables/fresh produce R Packing materials, cans, boxes, labels, machinery, sugar, S Canned fruit and vegetables/fresh produce R Packing materials, cans, boxes, labels, machinery, sugar, S Canned fruit and vegetables/fresh produce R Packing materials, cans, boxes, labels, machinery, sugar, S Canned fruit and vegetables/fresh produce R Packing materials, cans, boxes, labels, machinery, sugar, S Canned fruit and vegetables/fresh produce R Packing materials, cans, boxes, labels, machinery, sugar, S Canned fruit and vegetables/fresh produce R Packing materials, cans, boxes, labels, machinery, sugar, S Canned fruit and vegetables/fresh produce R Packing materials, cans, boxes, labels, machinery, sugar, S Canned fruit and vegeta	Car Ca 40's 1 2 2 5 5	3pacity 50's 1 1 1 4 4	Average 1 1 1.5 1.5 4.5 3.5 2.5 2.5		Cars Pulled Cars P	# Waybills 2 3 3 7 7 6 4 4	2 3 3 3 1 1 5 4 3 3 1 1 1 3	2.0 1.0 1.0 2.0 2.0 2.0 2.0 1.0	1.0				1.0			5.0				
Industry Ind	Commodity Shipped (S) or Received (R) Commodity Shipped (S) or Received (R) Mail, Business car, baggage, cars needing crane for unloading: GS, FM R Maiked freight (S/R) R Mixed freight (S/R) R Mixed freight (S/R) R Packing materials, wrapping paper, labels, and boxes. S Olives, Oil S Produce for eastern markets (fresh fruit & vegetables) R Packing materials, cans, boxes, labels, machinery, sugar, vinegar S Canned fruit and vegetables/fresh produce R Packing materials, cans, boxes, labels, machinery, sugar, vinegar S Canned fruit and vegetables/fresh produce R Packing materials, cans, boxes, labels, machinery, sugar, vinegar S Canned fruit and vegetables/fresh produce R Packing materials, cans, boxes, labels, machinery, sugar, vinegar S Canned fruit and vegetables/fresh produce R Vinegar S Canned fruit and vegetables/fresh produce R Vinegar S Canned fruit and vegetables/fresh produce R Vinegar S Canned fruit and vegetables/fresh produce	Car Ca 40's 1 2 2 5 5 4 4	spacity 50's 1 1 1 1 4 3 3	Average 1 1 1.5 1.5 4.5 3.5 2.5 2.5		Cars Pulled Cars P	# Waybills 2 2 3 3 7 7 6 4 4	2 3 3 3 1 1 5 5 4 3 3 1 1 1 3 1	2.0 1.0 1.0 2.0 2.0 2.0 2.0 1.0 1.0 0.0	1.0				1.0	1.0	0.5	5.0				

		_		•					-												
Oroville: East- North																					
High Sierra Pine Mill (Track 1)	S Lumber, hardwood, moulding	4	3	3.5		1.75	6	6		2.0									2.0	2.0	
High Sierra Pine Mill (Track 2)	S (S) Lumber, hardwood, moulding (R) Machinery, fuel,	4	3	3.5		1.75	6	6	1.0	2.0									2.0	1.0	
National Wood Products	R Lumber, Poles, creosote, machinery							5	2.0	1.0					1.0				1.0		
National Wood Products	S Treated Wood Products	5	4	4.5		2.25	7	2	2.0					2.0				<u> </u>		<u> </u>	
	Total Car Spots and Waybills Needed	-	-	29.5		15	50	50	14.5	7.0	0.5	0.0	0.0	2.0	2.0	10	11.0	0.0	7.0	2.0	0.0
			<u> </u>	20.0		15	50	50	14.5	7.0	0.5	0.0	0.0	3.0	3.0	1.0	11.0	0.0	7.0	3.0	0.0
Marysville CA			<u> </u>	r	r	1	1			1		1					r	<u> </u>	<u> </u>	<u> </u>	
Virden Cannery	S Olive oil general fruit & vegetable capping-packing?		-					2									2.0	<u> </u>	<u> </u>	'	
Virden Cannery	R Cardboard boxes cans bottles box shook	4	4	2		1	3	2	10								2.0				
Feather River Sand Co	S Sand gravel ballast	2	2	2		1	3	3	1.0		3.0			0.0				<u> </u>	<u> </u>	<u> </u>	
Stock Pens	S/R Cattle, feed	2	2	2		1	3	3			0.0			0.0				<u> </u>	<u> </u>	<u> </u>	3.0
Las Plumas Lumber	R Lumber, plywood, building materials, bagged cement	1	1	1		0.5	2	2	10									<u> </u>	10	<u> </u>	0.0
	Total Car Spots and Waybills Needed			7		4	11	11	2.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	1.0	0.0	3.0
									2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0		0.0	0.0
Industry	Commodity Shipped (S) or Received (R)	Car C	apacity	Average	1	Cars Pulled	# Waybills											<u> </u>	<u> </u>	<u> </u>	
		40'0	50'0			Curo F unou	" Hujzilo														
		40 5	50 5															<u> </u>	┢───		
R Street Industries			_																<u> </u>	'	
Universal Carloading Warehouse	S Freight Forwarder- Mixed Freight	6	6	6		3	9	3	3.0	0.0									<u> </u>	'	
Universal Carloading Warehouse	R Freight Forwarder- Mixed Freight							6	6.0	0.0											
WP-SN-CCT Freight House#1	SR Freight Forwarder- Mixed Freight	6	6	6		3	9	9	9.0	0.0								T T	T	<u> </u>	
P&A Shippers	R Freight Forwarder- Mixed Freight							3	1.0	2.0										<u> </u>	
P&A Shippers	S Freight Forwarder- Mixed Freight	2	2	2		1	3	0											1	· · · ·	
Western Potato Distributors	R Produce for local grocers	0		<u>_</u>			0	1									1.0		1	· · · ·	
Western Potato Distributors	S Produce shipped east	2	2	2		1	3	2									2.0		1		
Safeway Produce	R Produce for local grocers	0		<u>_</u>			0	3									3.0		1	· · · ·	
Safeway Produce	S Produce shipped east	2	2	2		1	3	0										1			
Dallman Supply	R Wire coils, steel beams, pipe, machinery	4	4			0.5	0	2	1.0	1.0											
Dallman Supply	S Built up machinery, HVAC, Electrical components	1	1	1		0.5	2	0													
Sperry Flour/General Mills Whs	R Flour, cereal, grain in sacks	2	2	2		1	2	2	2.0												
Sperry Flour/General Mills Whs	S Flour, cereal, grain in sacks	2	2	2		1	3	1	1.0												
7th & R Crane	R Wood/Steel beams, transformers, HVAC units	2	2	2		1	3	3	0.0					1.0					2.0		
7th & R Platform	R Farm Equip, vehicles, Goods on pallattes	2	2	2		1	3	3	1.0	1.0									1.0		
(Old Scale) Shasta Water Co	R Empty bottles, labels, caps	1	1	1		0.5	2	2	2.0												
(Old Scale) Capital City Planing M	R Softwoods & Hardwoods- Rough Cut	1	1	1		0.5	2	2	2.0												
Capital City Planing Mill	S Window & door sash, mouldings					0.5	2	0													
Montgomery Ward Warehouse	R Washers, beds, clothing, cooking utensils	1	1	1		0.5	2	2	1.0								1.0			<u> </u>	
Leo J Meyburg	R Radios	1	1	1		0.5	2	2	2.0	0.0										<u> </u>	
Goodyear Tire Warehouse	R Tires, fan belts, etc.	2	2	2		1	3	3		3.0										'	
WP Fuller	R Paint components in 55 gal drums, supplies	3	2	2.5		1.25	4	4	3.0	1.0										<u> </u>	
American Glass	R Plate Glass, mirrors, windows	1	1	1		0.5	2	2	2.0											'	Ļ
Borden's Creamery	R Packing materials, milk cartons, bulk milk, fuel oil	2	1	1.5		0.75	3	1				<u> </u>				0.5	0.0	<u> </u>	<u> </u>	<u> </u>	└───
Borden's Creamery	S Ice cream, sour cream, cottage cheese							2									2.0	└──	└──	Ļ'	<u> </u>
Palm Iron Works	R Steel shapes and pipe, iron castings, plate	4	4	4		2	6	5				<u> </u>		3.0				0.0	2.0	<u> </u>	<u> </u>
Palm Iron Works	S Occasional steel fabrications			·		_	Ŭ	1						0.5				\square	0.5	\square	<u> </u>
	Total Car Spots and Waybills Needed			40		20	64	64	36.0	8.0	0.0	0.0	0.0	4.5	0.0	0.5	9.0	0.0	5.5	0.0	0.0

The following summary shows differences on the Traffic & Capacity tab vs. the Waybuill Distribution tab even though they are expected to be the same. For both, the car capacity for total spots, on-line industry spots, and interchange spots are the same. The "waybills needed" information differs for both tabs as these are not calculated in the same way. For the Traffic & Capacity tab, the waybills needed for both on-line spots and interchange spots are calculated the same with the "held" factor applied. For the Waybill Distribution tab, the "held" factor is only applied to the on-line spots. The interchange spots are calcid as 2x the capacity. The later may be a better predictor as all cars pulled from interchange each session.

		Table 2 Summary of Waybill Needs				
Capacity & Traffic for On-lin	e Ind	ustries (Summary)	Car Capacity for Waybill Planning 40ft-50ft Avg.	% of spotted cars to be "Held" until next op session	Number of cars pulled each op session	# of Waybills Needed (2 * Car Capacity)
		Total Car Spots, Cars Moved and Waybills needed - All On-Line Industries	165.0	50%	83	270
		Modeled interchanges that can be a target or source for online industries	44.5		45	89
		Total Combined On-line Industries & Interchanges	209.5		127	359

				Tabl	e 3 Waybills	by On-Line L	ocation and C	ar Type														
Waybills Counted 1 per Car					Waybills	per On-Line	Capacity						Way	ybills	per Ca	ar Typ	e					
Industry (On-Line)	Color Code		Car Ca	pacity	Capacity 40ft-50ft Avg.	% Held	# Pulled	Waybills Needed	Sum by Type (Location)	ХМ	ХА	нм	LO	LT	GS	ТА	тм	RS	RM	FM	FB	SM
Location	Waybills Need	led By Type	40's	50's		50%																
Keddie 4.5 2 8 8 3.0 1.0 0.0 1.0 0.0 2.0 0.0													0.0									
Reno					7		4	11	11	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	1.0	0.0
Quincy 14 7 23 23 7.0 2.0 0.0														2.0								
Guincy Guincy <td>0.0</td>														0.0								
West Oakland					17		9	27	27	5.0	6.0	0.0	1.5	0.0	4.0	0.5	0.0	0.0	5.0	5.0	0.0	0.0
Oakland Pier					23		12	38	38	27.0	4.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Martinez					10		5	17	17	7.0	0.0	0.0	0.0	0.0	0.0	2.0	6.0	0.0	0.0	1.0	1.0	0.0
Davis					7		4	12	12	2.0	2.0	0.0	0.0	3.0	0.0	0.0	2.0	2.0	1.0	0.0	0.0	0.0
Oroville, CA					30		15	50	50	14.5	7.0	0.5	0.0	0.0	3.0	3.0	1.0	11.0	0.0	7.0	3.0	0.0
Marysville, CA					7		4	11	11	2.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	1.0	0.0	3.0
R Street Industries					40		20	64	64	36.0	8.0	0.0	0.0	0.0	4.5	0.0	0.5	9.0	0.0	5.5	0.0	0.0
All Industry (On-Line)	Total Waybills	Needed By Type			165		83	270	270	116.5	30.0	4.5	3.5	6.0	12.5	5.5	20.5	26.0	6.0	28.5	5.0	5.0
	Sum Total of (Car Type Waybills							270													

			Та	able 4 Waybil	Is by Intercha	ange and Car	Туре														
Waybills Counted 0.5 per Car				Waybills p	er Interchang	e Capacity						Way	/bills	per Ca	ar Typ	e					
Interchange	Waybills Needed	Sum by Type (Location)	ХМ	ХА	нм	LO	LT	GS	ТА	тм	RS	RM	FM	FB	SM						
SN-CCT Interchange (R Str) 5 4 4.5 0 4.5 9 9 3.0 0.0 0.0 1.0 0.0 1.0 0.0 1.0 0.0 1.0 0.0 1.0 0.0 1.0 0.0 1.0 0.0 1.0 0.0 1.0 0.0 1.0 0.0 1.0 0.0 1.0 0.0 1.0 0.0 1.0 0.0 1.0 0.0 1.0 0.0 1.0 0.0															0.0						
SN Interchange (MV)		5	4	4.5	0	4.5	9	9	3.0	0.0	2.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
SP Interchange (OV)		11	9	10	0	10	20	20	9.0	2.0	0.0	0.0	0.0	1.0	0.0	0.0	8.0	0.0	0.0	0.0	0.0
Ferry Slip-Freight (OP)		15	12	13.5	0	13.5	27	27	11.0	3.0	1.0	0.0	0.0	2.0	0.0	2.0	6.0	2.0	0.0	0.0	0.0
OTR (WO)		7	5	6	0	6	12	12	4.0	4.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
SP Interchange (Reno)		7	5	6	0	6	12	12	5.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	1.0	0.0	2.0
All Industry Interchanges	Total Waybills Needed By Type			45		45	89	89	35.0	9.0	3.0	3.0	0.0	6.0	0.0	7.0	18.0	2.0	3.0	1.0	2.0
	On-Line + Interchange Waybills						359	359													

Staging & Overhead Requirements (New Algorithm & Justifications)

Assumption: The size of the permanent fleet depends upon both the volume of traffic to the on-line industries and on the trains staged and built during the session. Note: For planning, local switching jobs and turns have been excluded from the totals.

Assumption: If the size of the fleet is smaller than the ultimate projection, then train length will shorten to feed industry needs or industries will starve to build longer trains. This is especially true for pre-staged through trains.

Capacity of Staging and Classification Yards

Assumption: Projected maximum train lengths can be used to determine yard and staging needs.

Assumption: Including the cars for the trains to be built during the session addresses yard classification needs.

	Table 5	Keddie Yard	& East Stagir	ng (GN/SLC)			
	Car Capacity	1		Cars in Train (S	staged or Built)		Comments
Note: Capacity based upon Maximum Train Length	40' -50' avg. (at least)	Length (feet)	Maximun (100%)	Standard (90%)	Reduced (75%)	Minimal (50%)	
Keddie Track #1	24	??	24	22	18	12	Keddie Sweeper
Keddie Track #2	24	??	xx	xx	xx	xx	Reno Turn (12 max)
Keddie Track #3	20	??	xx	xx	xx	xx	Quincy Turn (10 max)
Keddie Track #4	20	??	0	0	0	0	
Keddie Track #5	20	??	0	0	0	0	
East Staging Track #1	24	??	24	22	18	12	SLC Extra West
East Staging Track #2	24	??	24	22	18	12	Oakland Manifest (thru)
East Staging Track #3	24	??	24	22	18	12	GN Manifest West
Total	180		96	86	72	48	

	Table 6 Oakl	and's Desert	Yard & West	Staging (SFE	BA)		
	Car Capacity			Cars in Train (S	staged or Built)		Comments
Note: Capacity based upon Maximum Train Length	40' -50' avg. (at least)	Length (feet)	Maximun (100%)	Standard (90%)	Reduced (75%)	Minimal (50%)	
Desert Track #1	24	??	24	22	18	12	Oakland Forwarder
Desert Track #2	24	??	24	22	18	12	Oakland Sweeper
Desert Track #3	24	??	24	22	18	12	SLC Manifest East (thru)
Desert Track #4	20	??	0	0	0	0	
Desert Track #5	20	??	0	0	0	0	
Total	112		72	65	54	36	

	Table	7 Sacrame	nto's 12th Str	eet Yard			
	Car Capacity			Cars in Train (S	Staged or Built)		Comments
Note: Capacity based upon Maximum Train Length	40' -50' avg. (at least)	Length (feet)	Maximun (100%)	Standard (90%)	Reduced (75%)	Minimal (50%)	
Track #1	24	??	24	22	18	12	Oakland Extra West
Track #2	24	??	20	18	15	10	Keddie Hauler
Track #3	24	??	20	18	15	10	Oakland Hauler
Track #4	24	??	24	22	18	12	SLC Extra East
Track #5	24	??	24	22	18	12	GN Extra East
Track #6	24	??	0	0	0	0	
Track #7	24	??	0	0	0	0	
Track #8	24	??	0	0	0	0	
Track #9	24	??	0	0	0	0	
Track #10	24	??	0	0	0	0	
Track #11	24	??	0	0	0	0	
Track #12	24	??	0	0	0	0	
Total	288		112	101	84	56	

	Table 8 Ya	ard & Staging	g Requiremer	nts (Summary	r)		
	Car Capacity		AI	l Cars in Trains	(Staged or Bui	lt)	Comments
Note: Capacity based upon Maximum Train Length	40' -50' avg. (at least)	Length (feet)	Maximun (100%)	Standard (90%)	Reduced (75%)	Minimal (50%)	
Totals	580	??	280	252	210	140	

Assumption: Industries cannot accept more cars than can be spotted at the indutries considering that there are approximately 256 spots.

Assumption: Cars not at industries are available for inclusion in trains.

Assumption: If the projected size of the waybilled fleet is not attained, then occupancy at industries will be less than full, possibly much less.

Table 9 Fleet Sizing Requirements														
Note: On line Needs includes both industries and	Car Canacity	On-line	Adjusted for	r Industry Occu	ipancy & Wayb	illed Fleet #	Comments							
interchages.	40' -50' avg.	Waybilled	Full	Reasonable	Diminished	Starved								
interentagee.	to oo arg.	Cars	(100%)	(90%)	(75%)	(50%)								
On-line Needs as Calculated	210	359												
Total Waybilled Fleet (Industries + Interchanges)	xx	XX	359	323	270	180								
# of Cars at Industries (256 max.)	xx	XX	210	189	157	105								
# of Cars Available for Trains {Adusted Waybilled Fleet - Industry Occupancy}	хх	xx	150	135	112	75								
Yard & Staging Requirements (from above)														
Maximum Train Length (# Cars)	XX	xx	280	280	280	280								
Standard Train Length (# Cars)	xx	xx	252	252	252	252								
Reduced Train Length (# Cars)	XX	xx	210	210	210	210								
Minimal Train Length (# Cars)	xx	xx	140	140	140	140								
Deficit Adjustment {Yard & Staging Rqts - Cars	Available for T	rains}												
Deficit Adjustment (Maximum Train Length)	XX	xx	130	145	168	205								
Deficit Adjustment (Standard Train Length)	xx	xx	102	117	140	177								
Deficit Adjustment (Reduced Train Length)	XX	xx	60	75	98	135								
Deficit Adjustment (Minimal Train Length)	xx	xx	(10)	5	28	65								
Totals {Adjusted Waybilled Fleet + Deficit Adjusted	stment}													
# of Cars in Fleet (Maximum Train Length)	XX	xx	490	469	437	385								
# of Cars in Fleet (Standard Train Length)	xx	xx	462	441	409	357								
# of Cars in Fleet (Reduced Train Length)	XX	XX	420	399	367	315								
# of Cars in Fleet (Minimal Train Length)	xx	xx	350	329	297	245								

Assumption: Fleet size can be optimized by varying the size of the waybilled fleet and the length of the trains on the schedule. Consider industry occupancy of full, reasonable, diminished, and starved. Consider train lengths of maximum, standard, reduced, and minimal.

Assumption: Even with waybilled fleet sized at 2X the industy capacity, additional cars will be needed to make up this deficit.

Assumption: Staging and yard capacity and working constraints will limit the ultimate size of the permanent fleet. Currently, the number of trains, not their length, is limited.

Table 10 Permanent Fleet Size (# of Cars)					
		Train Length			
		Maximun (100%)	Standard (90%)	Reduced (75%)	Minimal (50%)
Industry Occupancy & Waybilled Fleet Size	Full (100%)	490	462	420	350
	Reasonable (90%)	469	441	399	350
	Diminished (75%)	437	409	367	297
	Starved (50%)	385	357	315	245

Assumption: Successful Proto Ops sessions have been conducted with full crews, full train runs, and a fleet of about 300 cars. However, not all industries are on-line (Oroville), most industries appear to be at the "diminished" level, and train lengths seem to be between "reduced" and "minimal".

Assumption: If the assumptions are generally valid and the algorithm reasonable, then a permanent fleet sized at about 400 cars should be considered optimal. This allows trains to have an average length that varies between 90% to 75% of full.