AI AUTOMATION & OPERATIONAL TRANSFORMATION

Todd Angus | Selected systems portfolio | kaizenworksindustrial.ca

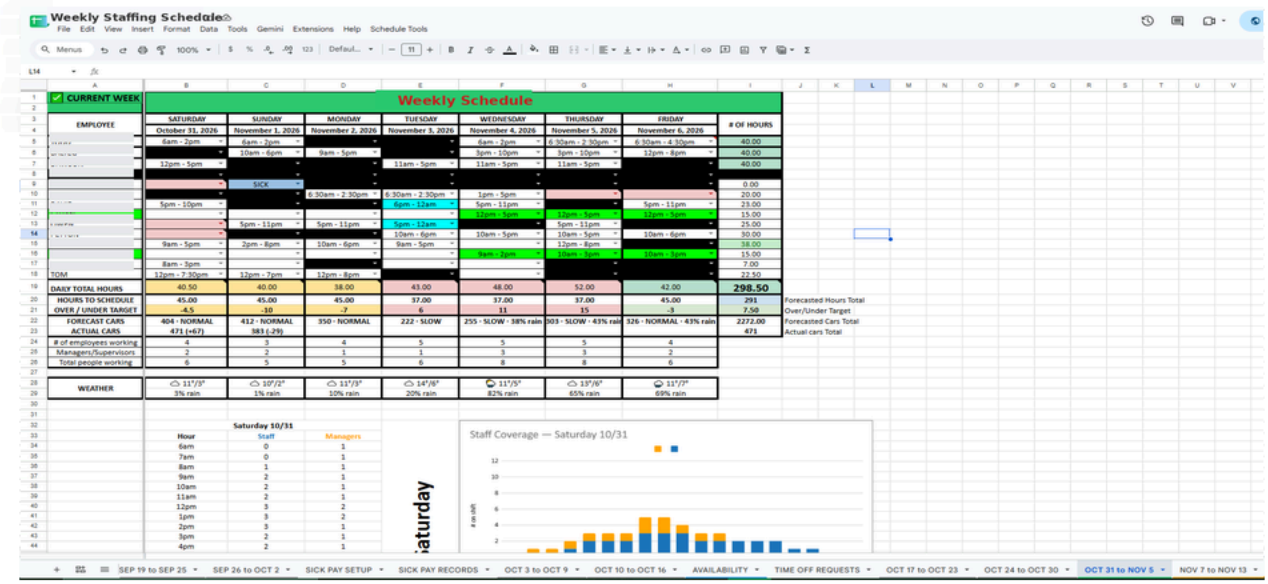
I identify inefficient processes, define the operating rules, use AI-assisted development to build working tools, and test them in real workflows. My focus is practical adoption, better decisions, and measurable time savings.

01 | Automated scheduling, attendance & staff coverage

Connected workflow: A weekly schedule is generated using staffing requirements, demand forecasts and weather-informed workload expectations. The system reads employee availability and approved time-off requests and flags shifts that conflict with either. It calculates scheduled hours, compares them with recommended labour hours, and highlights over- and under-coverage.

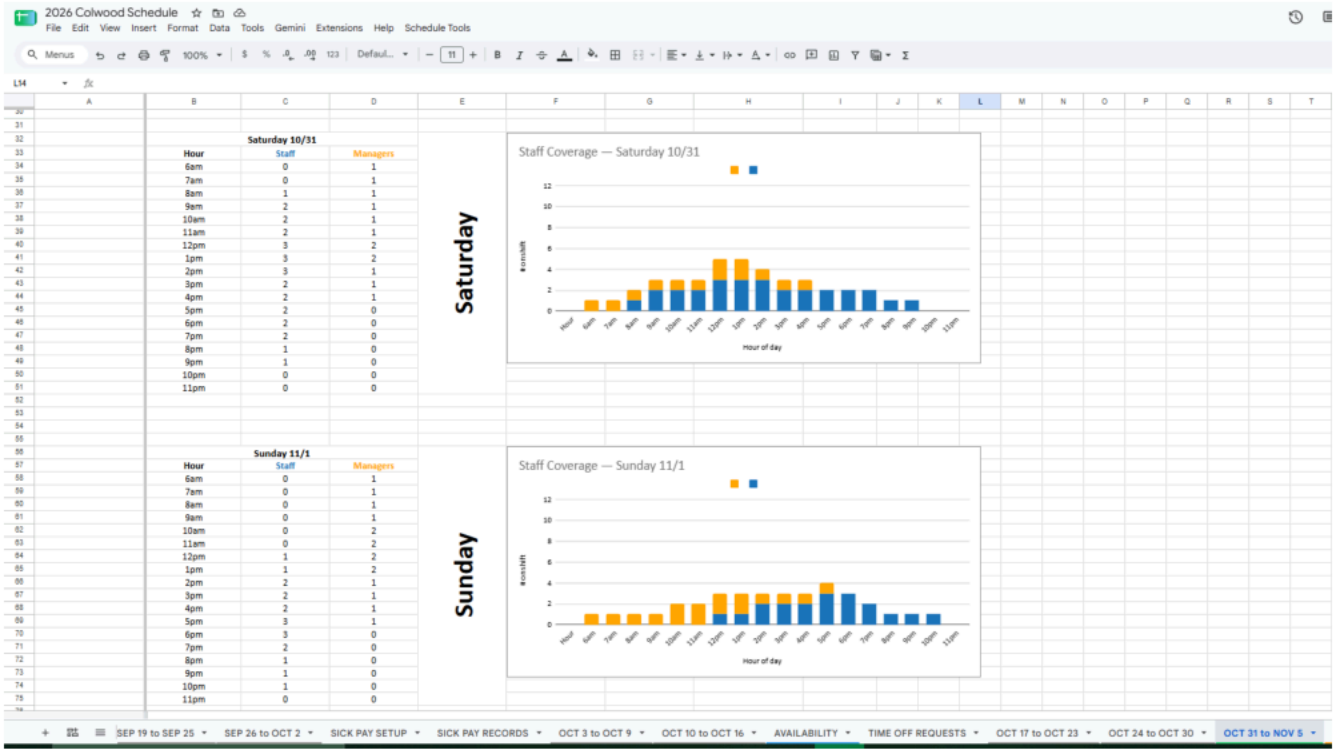
Attendance and sick pay: Attendance records sit alongside scheduling. The workflow supports employee setup and sick-pay calculations using configured British Columbia paid-sick-leave rules; outputs remain subject to payroll review and current legal requirements.

Hourly coverage: Daily charts show staff and manager coverage throughout each day, making it easier to spot gaps or excess coverage before publishing the schedule.

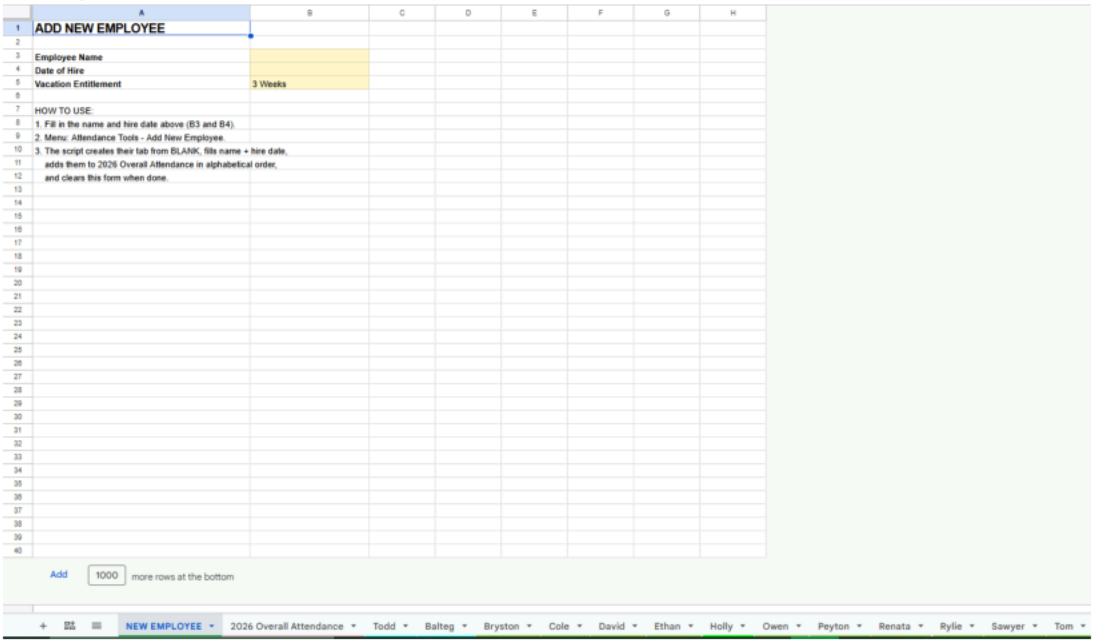


Weekly scheduling view: forecast demand, labour-hour targets and shift coverage.

Scheduling + attendance: connected views



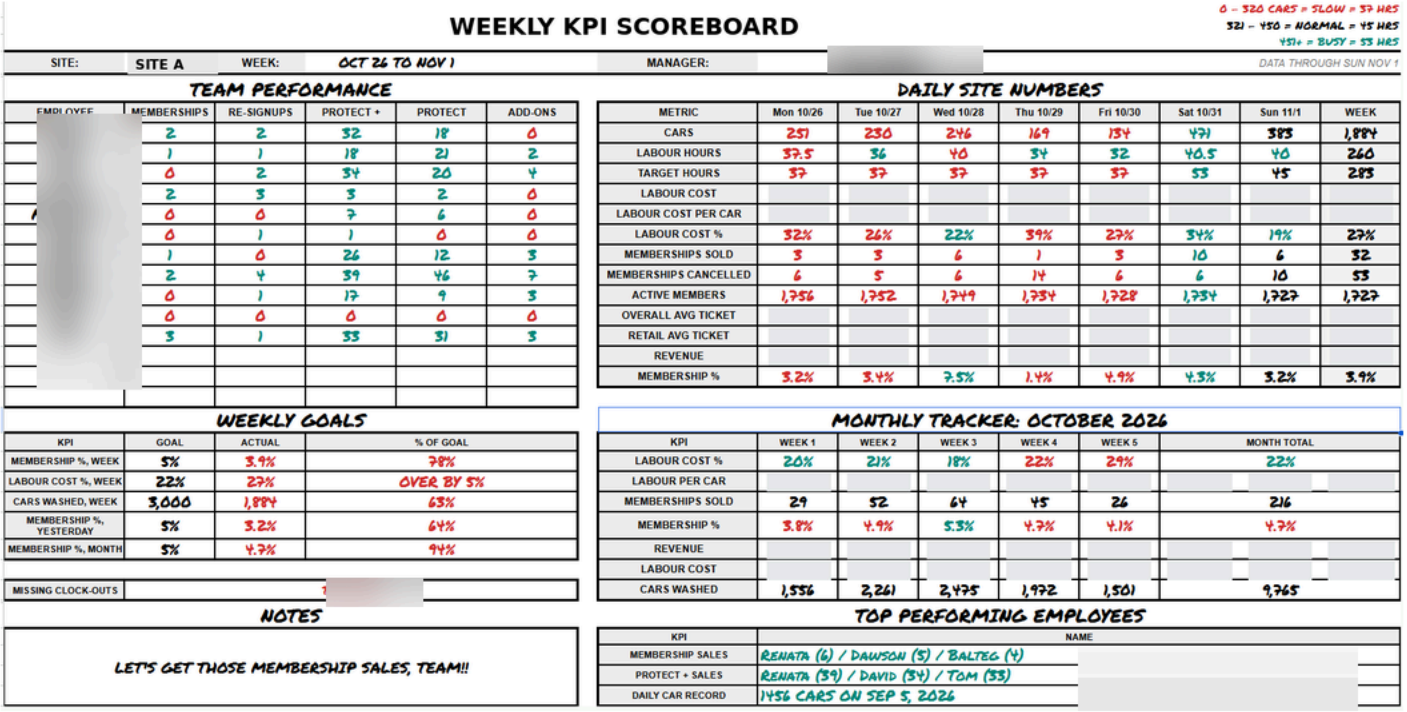
Daily staffing coverage by hour, with separate staff and manager counts.



Employee setup and attendance tracking used alongside scheduling and leave calculations.

02 | Automated KPI scoreboard and reporting

Replaced manual whiteboard updates with a structured weekly scoreboard. The dashboard consolidates daily performance, labour metrics, membership activity, employee results and monthly tracking into a single operating view. I defined the metrics and display requirements, then implemented and tested the AI-assisted workflow.



WEEKLY KPI SCOREBOARD

0 – 320 CARS = SLOW = 37 HRS
321 – 450 = NORMAL = 45 HRS
451+ = BUSY = 53 HRS

SITE: SITE A | WEEK: OCT 26 TO NOV 1 | MANAGER: [redacted] | DATA THROUGH SUN NOV 1

TEAM PERFORMANCE

EMPLOYEE	MEMBERSHIPS	RE-SIGNUPS	PROTECT +	PROTECT	ADD-ONS
[redacted]	2	2	32	18	0
	1	1	18	21	2
	0	2	34	20	4
	2	3	3	2	0
	0	0	7	6	0
	0	1	1	0	0
	1	0	26	12	3
	2	4	39	46	7
	0	1	17	9	3
	0	0	0	0	0
	3	1	33	31	3

DAILY SITE NUMBERS

METRIC	Mon 10/26	Tue 10/27	Wed 10/28	Thu 10/29	Fri 10/30	Sat 10/31	Sun 11/1	WEEK
CARS	251	230	246	169	134	421	383	1,884
LABOUR HOURS	37.5	36	40	34	32	40.5	40	260
TARGET HOURS	37	37	37	37	37	53	45	285
LABOUR COST								
LABOUR COST PER CAR								
LABOUR COST %	32%	26%	22%	39%	27%	34%	19%	27%
MEMBERSHIPS SOLD	3	3	6	1	3	10	6	32
MEMBERSHIPS CANCELLED	6	5	6	14	6	6	10	53
ACTIVE MEMBERS	1,756	1,752	1,749	1,734	1,728	1,734	1,727	1,727
OVERALL AVG TICKET								
RETAIL AVG TICKET								
REVENUE								
MEMBERSHIP %	3.2%	3.4%	7.5%	1.4%	4.9%	4.3%	3.2%	3.9%

WEEKLY GOALS

KPI	GOAL	ACTUAL	% OF GOAL
MEMBERSHIP %, WEEK	5%	3.9%	78%
LABOUR COST %, WEEK	22%	27%	OVER BY 5%
CARS WASHED, WEEK	3,000	1,884	63%
MEMBERSHIP %, YESTERDAY	5%	3.2%	64%
MEMBERSHIP %, MONTH	5%	4.7%	94%

MISSING CLOCK-OUTS	[redacted]

MONTHLY TRACKER: OCTOBER 2026

KPI	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	MONTH TOTAL
LABOUR COST %	20%	21%	18%	22%	29%	22%
LABOUR PER CAR						
MEMBERSHIPS SOLD	29	52	64	45	26	216
MEMBERSHIP %	3.8%	4.9%	5.3%	4.7%	4.1%	4.7%
REVENUE						
LABOUR COST						
CARS WASHED	1,556	2,261	2,475	1,972	1,501	9,765

NOTES

LET'S GET THOSE MEMBERSHIP SALES, TEAM!!

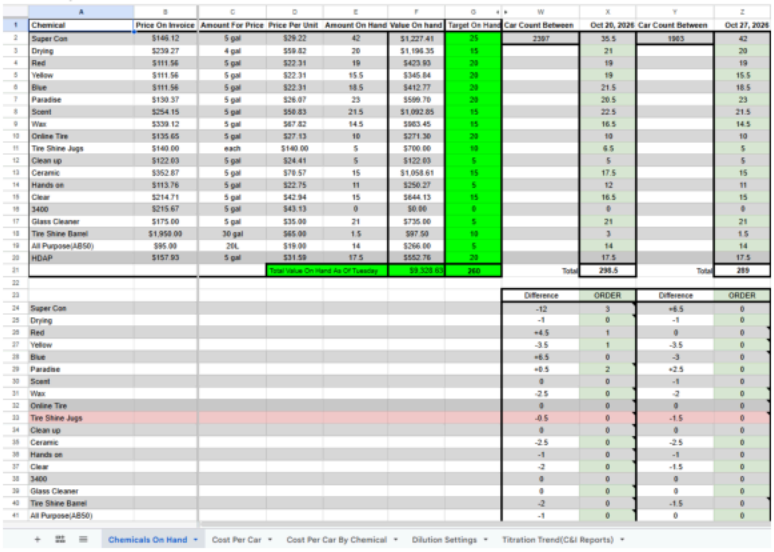
TOP PERFORMING EMPLOYEES

KPI	NAME
MEMBERSHIP SALES	RENATA (6) / DAWSON (5) / BALTEG (4)
PROTECT + SALES	RENATA (39) / DAVID (34) / TOM (33)
DAILY CAR RECORD	1456 CARS ON SEP 5, 2026

Selected financial figures obscured; operational measures remain visible.

03 | Inventory replenishment and chemical ordering

Weekly chemical counts feed a replenishment sheet that calculates which products need ordering and how much is required based on configured targets. A related multi-location inventory workbook compares stock against par levels, assembles location-specific needs, and supports automated ordering communications and status tracking.

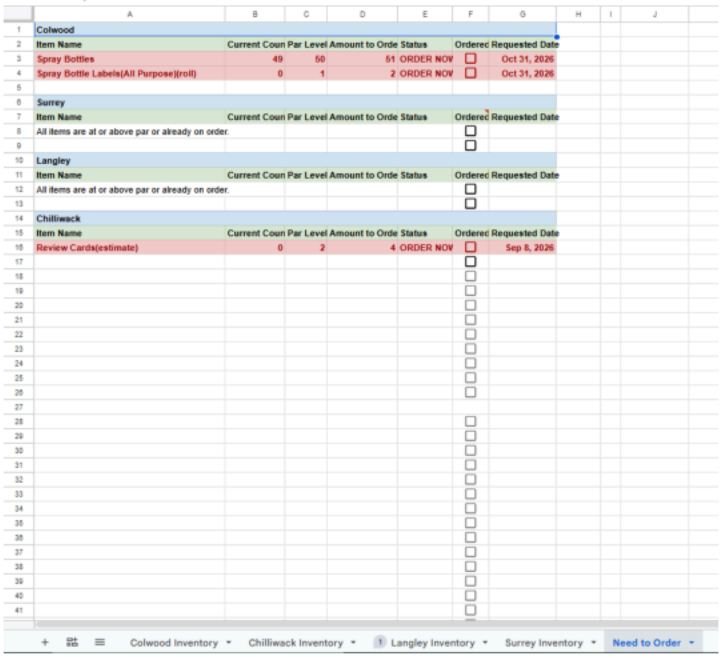


Chemical	Price On Invoice	Amount For Price	Price Per Unit	Amount On Hand	Value On hand	Target On Hand	Car Count Between	Oct 20, 2026	Car Count Between	Oct 27, 2026
Super Con	$146.12	5 gal	$29.22	42	$1,227.41	25	2397	35.5	1983	42
Drying	$239.27	4 gal	$59.82	20	$1,196.35	15		21		20
Red	$111.56	5 gal	$22.31	19	$423.93	20		19		19
Yellow	$111.56	5 gal	$22.31	15.5	$345.84	20		19		15.5
Blue	$111.56	5 gal	$22.31	18.5	$412.77	20		21.5		18.5
Paradise	$130.37	5 gal	$26.07	23	$599.70	20		20.5		23
Scent	$254.15	5 gal	$50.83	21.5	$1,092.85	15		22.5		21.5
Wax	$339.12	5 gal	$67.82	14.5	$983.45	15		16.5		14.5
Online Tire	$135.65	5 gal	$27.13	10	$271.30	20		10		10
Tire Shine Jugs	$140.00	each	$140.00	5	$700.00	10		6.5		5
Clean up	$122.03	5 gal	$24.41	5	$122.03	5		5		5
Ceramic	$352.87	5 gal	$70.57	15	$1,058.61	15		17.5		15
Hands on	$113.76	5 gal	$22.75	11	$250.27	5		12		11
Clear	$214.71	5 gal	$42.94	15	$644.13	15		16.5		15
3400	$215.67	5 gal	$43.13	0	$0.00	0		0		0
Glass Cleaner	$175.00	5 gal	$35.00	21	$735.00	5		21		21
Tire Shine Barrel	$1,950.00	30 gal	$65.00	1.5	$97.50	10		3		1.5
All Purpose(AB50)	$95.00	20L	$19.00	14	$266.00	5		14		14
HDAP	$157.93	5 gal	$31.59	17.5	$552.76	20		17.5		17.5
			Total Value On Hand As Of Tuesday		$9,328.63	260	Total	298.5	Total	289

	Difference	ORDER	Difference	ORDER
Super Con	-12	3	+6.5	0
Drying	-1	0	-1	0
Red	+4.5	1	0	0
Yellow	-3.5	1	-3.5	0
Blue	+6.5	0	-3	0
Paradise	+0.5	2	+2.5	0
Scent	0	0	-1	0
Wax	-2.5	0	-2	0
Online Tire	0	0	0	0
Tire Shine Jugs	-0.5	0	-1.5	0
Clean up	0	0	0	0
Ceramic	-2.5	0	-2.5	0
Hands on	-1	0	-1	0
Clear	-2	0	-1.5	0
3400	0	0	0	0
Glass Cleaner	0	0	0	0
Tire Shine Barrel	-2	0	-1.5	0
All Purpose(AB50)	-1	0	0	0

Chemicals On Hand | Cost Per Car | Cost Per Car By Chemical | Dilution Settings | Titration Trend(C&I Reports)

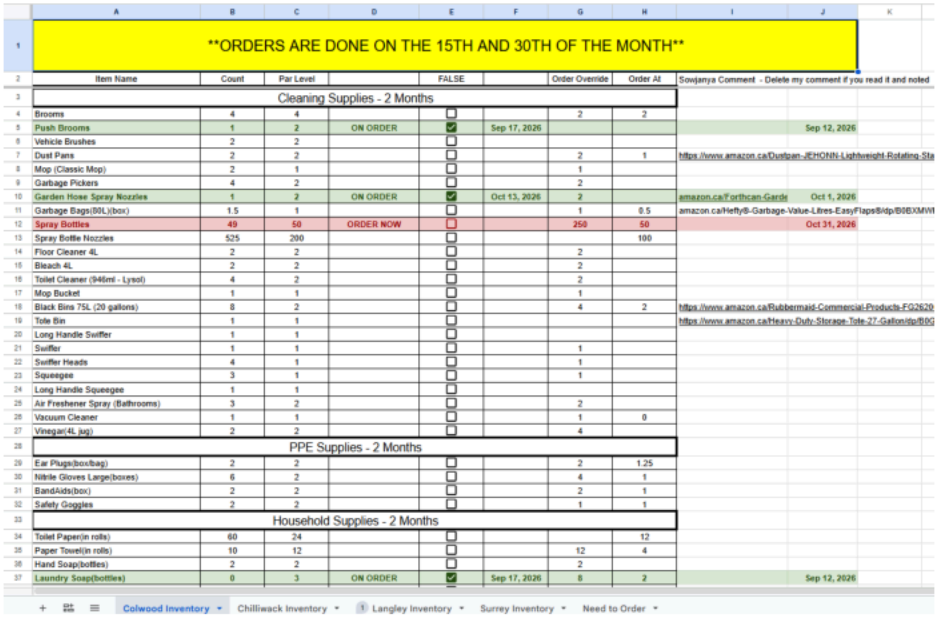
Inventory & ordering: supporting views



	A	B	C	D	E	F	G
1	Colwood						
2	Item Name	Current Coun	Par Level	Amount to Orde	Status	Ordered	Requested Date
3	Spray Bottles	49	50	51	ORDER NOW	☐	Oct 31, 2026
4	Spray Bottle Labels(All Purpose)(roll)	0	1	2	ORDER NOW	☐	Oct 31, 2026
5							
6	Surrey						
7	Item Name	Current Coun	Par Level	Amount to Orde	Status	Ordered	Requested Date
8	All items are at or above par or already on order.					☐	
9						☐	
10	Langley						
11	Item Name	Current Coun	Par Level	Amount to Orde	Status	Ordered	Requested Date
12	All items are at or above par or already on order.					☐	
13						☐	
14	Chilliwack						
15	Item Name	Current Coun	Par Level	Amount to Orde	Status	Ordered	Requested Date
16	Review Cards(estimate)	0	2	4	ORDER NOW	☐	Sep 8, 2026
17						☐	
18						☐	
19						☐	
20						☐	
21						☐	
22						☐	
23						☐	
24						☐	
25						☐	
26						☐	
27							
28						☐	
29						☐	
30						☐	
31						☐	
32						☐	
33						☐	
34						☐	
35						☐	
36						☐	
37						☐	
38						☐	
39						☐	
40						☐	
41						☐	

Colwood Inventory | Chilliwack Inventory | Langley Inventory | Surrey Inventory | Need to Order

Consolidated reorder list highlights products below target by location.



	A	B	C	D	E	F	G	H	I	J	K
1	**ORDERS ARE DONE ON THE 15TH AND 30TH OF THE MONTH**										
2	Item Name	Count	Par Level		FALSE		Order Override	Order At	Sowjanya Comment - Delete my comment if you read it and noted		
3	Cleaning Supplies - 2 Months										
4	Brooms	4	4		☐		2	2			
5	Push Brooms	1	2	ON ORDER	☑	Sep 17, 2026				Sep 12, 2026	
6	Vehicle Brushes	2	2		☐						
7	Dust Pans	2	2		☐		2	1	https://www.amazon.ca/Dustpan-JEHONN-Lightweight-Rotating-Sta		
8	Mop (Classic Mop)	2	1		☐		1				
9	Garbage Pickers	4	2		☐		2				
10	Garden Hose Spray Nozzles	1	2	ON ORDER	☑	Oct 13, 2026	2		amazon.ca/Forthcan-Garde	Oct 1, 2026	
11	Garbage Bags(80L)(box)	1.5	1		☐		1	0.5	amazon.ca/Hefty®-Garbage-Value-Litres-EasyFlaps®/dp/B0BXMWI		
12	Spray Bottles	49	50	ORDER NOW	☐		250	50		Oct 31, 2026	
13	Spray Bottle Nozzles	525	200		☐			100			
14	Floor Cleaner 4L	2	2		☐		2				
15	Bleach 4L	2	2		☐		2				
16	Toilet Cleaner (946ml - Lysol)	4	2		☐		2				
17	Mop Bucket	1	1		☐		1				
18	Black Bins 75L (20 gallons)	8	2		☐		4	2	https://www.amazon.ca/Rubbermaid-Commercial-Products-FG2620		
19	Tote Bin	1	1		☐				https://www.amazon.ca/Heavy-Duty-Storage-Tote-27-Gallon/dp/B0C		
20	Long Handle Swiffer	1	1		☐						
21	Swiffer	1	1		☐		1				
22	Swiffer Heads	4	1		☐		1				
23	Squeegee	3	1		☐		1				
24	Long Handle Squeegee	1	1		☐						
25	Air Freshener Spray (Bathrooms)	3	2		☐		2				
26	Vacuum Cleaner	1	1		☐		1	0			
27	Vinegar(4L jug)	2	2		☐		4				
28	PPE Supplies - 2 Months										
29	Ear Plugs(box/bag)	2	2		☐		2	1.25			
30	Nitrile Gloves Large(boxes)	6	2		☐		4	1			
31	BandAids(box)	2	2		☐		2	1			
32	Safety Goggles	2	2		☐		1	1			
33	Household Supplies - 2 Months										
34	Toilet Paper(in rolls)	60	24		☐			12			
35	Paper Towel(in rolls)	10	12		☐		12	4			
36	Hand Soap(bottles)	2	2		☐		2				
37	Laundry Soap(bottles)	0	3	ON ORDER	☑	Sep 17, 2026	8	2		Sep 12, 2026	

Colwood Inventory | Chilliwack Inventory | Langley Inventory | Surrey Inventory | Need to Order

Location inventory sheet uses par levels, order status and order quantities.

04 | Chemical dilution settings and change history

An injector and tip reference calculates dilution settings based on the selected hardware combination. When a tip or injector setting is changed, the workbook automatically records the change in a running log. The history captures the date, previous configuration, new configuration and notes, making it possible to review or reverse a change when chemical usage or wash performance is not as expected.

The same workbook also tracks chemical cost per car, usage trends and titration results. Together, these views support controlled adjustments, operational troubleshooting and evidence-based cost management.

Automatic change tracking

1. **Select injector / tip**
   Choose a configuration in the workbook.

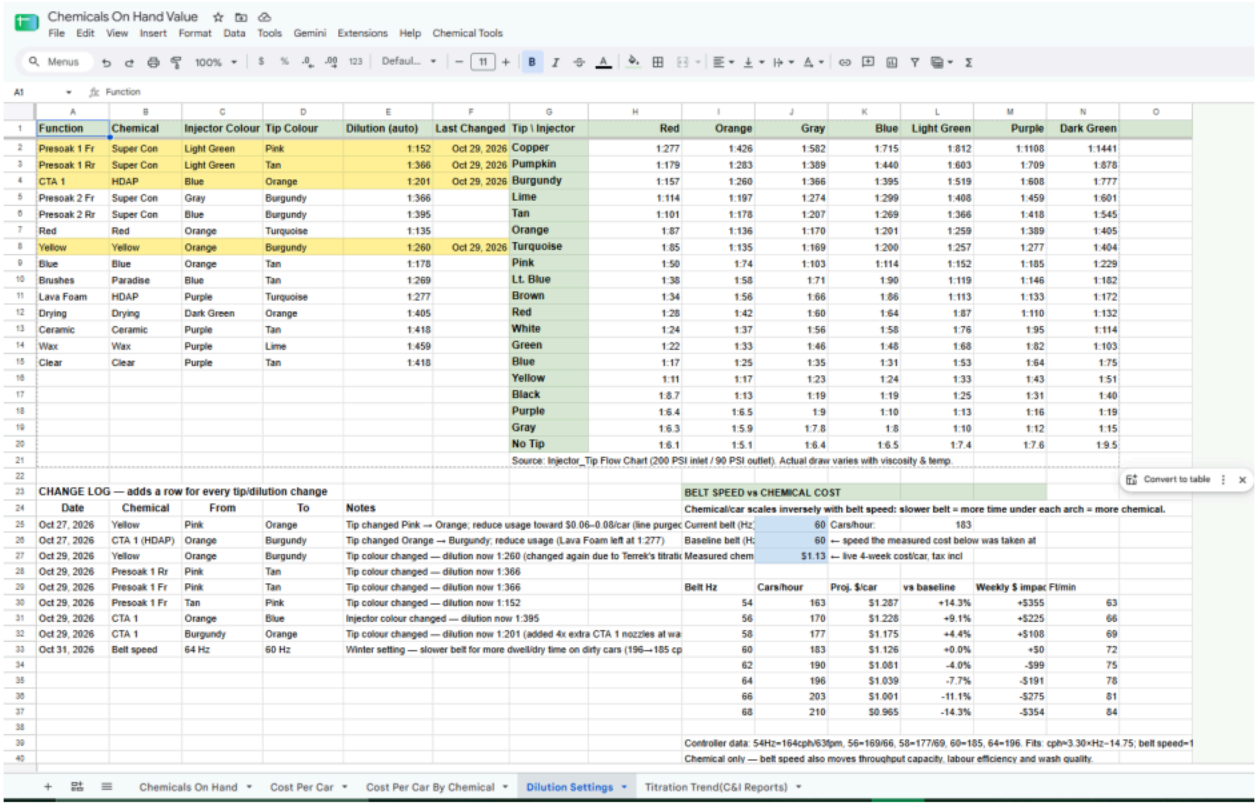
2. **Calculate dilution**
   The selected combination updates the dilution reference.

3. **Record the change**
   The log preserves previous and new settings with a date.

4. **Review performance**
   Compare subsequent usage, costs and wash results.

The following page shows the actual configuration and trend-tracking screens.

Chemical controls: configuration and traceability



Chemicals On Hand Value

File Edit View Insert Format Data Tools Gemini Extensions Help Chemical Tools

Function	Chemical	Injector Colour	Tip Colour	Dilution (auto)	Last Changed
Presoak 1 Fr	Super Con	Light Green	Pink	1:152	Oct 29, 2026
Presoak 1 Rr	Super Con	Light Green	Tan	1:366	Oct 29, 2026
CTA 1	HDAP	Blue	Orange	1:201	Oct 29, 2026
Presoak 2 Fr	Super Con	Gray	Burgundy	1:366	
Presoak 2 Rr	Super Con	Blue	Burgundy	1:395	
Red	Red	Orange	Turquoise	1:135	
Yellow	Yellow	Orange	Burgundy	1:260	Oct 29, 2026
Blue	Blue	Orange	Tan	1:178	
Brushes	Paradise	Blue	Tan	1:269	
Lava Foam	HDAP	Purple	Turquoise	1:277	
Drying	Drying	Dark Green	Orange	1:405	
Ceramic	Ceramic	Purple	Tan	1:418	
Wax	Wax	Purple	Lime	1:459	
Clear	Clear	Purple	Tan	1:418	

Tip \ Injector	Red	Orange	Gray	Blue	Light Green	Purple	Dark Green
Copper	1:277	1:426	1:582	1:715	1:812	1:1108	1:1441
Pumpkin	1:179	1:283	1:389	1:440	1:603	1:709	1:878
Burgundy	1:157	1:260	1:366	1:395	1:519	1:608	1:777
Lime	1:114	1:197	1:274	1:299	1:408	1:459	1:601
Tan	1:101	1:178	1:207	1:269	1:366	1:418	1:545
Orange	1:87	1:136	1:170	1:201	1:259	1:389	1:405
Turquoise	1:85	1:135	1:169	1:200	1:257	1:277	1:404
Pink	1:50	1:74	1:103	1:114	1:152	1:185	1:229
Lt. Blue	1:38	1:58	1:71	1:90	1:119	1:146	1:182
Brown	1:34	1:56	1:66	1:86	1:113	1:133	1:172
Red	1:28	1:42	1:60	1:64	1:87	1:110	1:132
White	1:24	1:37	1:56	1:58	1:76	1:95	1:114
Green	1:22	1:33	1:46	1:48	1:68	1:82	1:103
Blue	1:17	1:25	1:35	1:31	1:53	1:64	1:75
Yellow	1:11	1:17	1:23	1:24	1:33	1:43	1:51
Black	1:8.7	1:13	1:19	1:19	1:25	1:31	1:40
Purple	1:6.4	1:6.5	1:9	1:10	1:13	1:16	1:19
Gray	1:6.3	1:5.9	1:7.8	1:8	1:10	1:12	1:15
No Tip	1:6.1	1:5.1	1:6.4	1:6.5	1:7.4	1:7.6	1:9.5

Source: Injector_Tip Flow Chart (200 PSI inlet / 90 PSI outlet). Actual draw varies with viscosity & temp.

Convert to table

CHANGE LOG — adds a row for every tip/dilution change

Date	Chemical	From	To	Notes
Oct 27, 2026	Yellow	Pink	Orange	Tip changed Pink → Orange; reduce usage toward $0.06–0.08/car (line purgec
Oct 27, 2026	CTA 1 (HDAP)	Orange	Burgundy	Tip changed Orange → Burgundy; reduce usage (Lava Foam left at 1:277)
Oct 29, 2026	Yellow	Orange	Burgundy	Tip colour changed — dilution now 1:260 (changed again due to Terrek's titrati
Oct 29, 2026	Presoak 1 Rr	Pink	Tan	Tip colour changed — dilution now 1:366
Oct 29, 2026	Presoak 1 Fr	Pink	Tan	Tip colour changed — dilution now 1:366
Oct 29, 2026	Presoak 1 Fr	Tan	Pink	Tip colour changed — dilution now 1:152
Oct 29, 2026	CTA 1	Orange	Blue	Injector colour changed — dilution now 1:395
Oct 29, 2026	CTA 1	Burgundy	Orange	Tip colour changed — dilution now 1:201 (added 4x extra CTA 1 nozzles at wa
Oct 31, 2026	Belt speed	64 Hz	60 Hz	Winter setting — slower belt for more dwell/dry time on dirty cars (196→185 cp

BELT SPEED vs CHEMICAL COST

Chemical/car scales inversely with belt speed: slower belt = more time under each arch = more chemical.

Current belt (Hz: 60 Cars/hour: 183

Baseline belt (H: 60 ← speed the measured cost below was taken at

Measured chem $1.13 ← live 4-week cost/car, tax incl

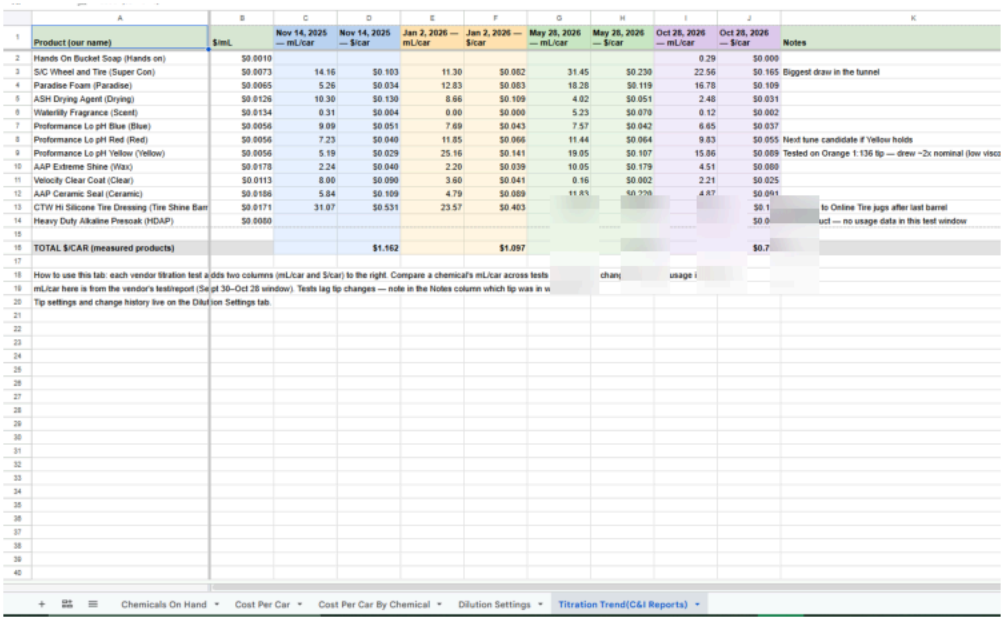
Belt Hz	Cars/hour	Proj. $/car	vs baseline	Weekly $ impac	Ft/min
54	163	$1.287	+14.3%	+$355	63
56	170	$1.228	+9.1%	+$225	66
58	177	$1.175	+4.4%	+$108	69
60	183	$1.126	+0.0%	+$0	72
62	190	$1.081	-4.0%	-$99	75
64	196	$1.039	-7.7%	-$191	78
66	203	$1.001	-11.1%	-$275	81
68	210	$0.965	-14.3%	-$354	84

Controller data: 54Hz=164cph/63fpm, 56=169/66, 58=177/69, 60=185, 64=196. Fits: cph=3.30×Hz−14.75; belt speed=1

Chemical only — belt speed also moves throughput capacity, labour efficiency and wash quality.

Chemicals On Hand | Cost Per Car | Cost Per Car By Chemical | Dilution Settings | Titration Trend(C&I Reports)

Tip/injector selection, calculated dilution ratios, and a running change history.



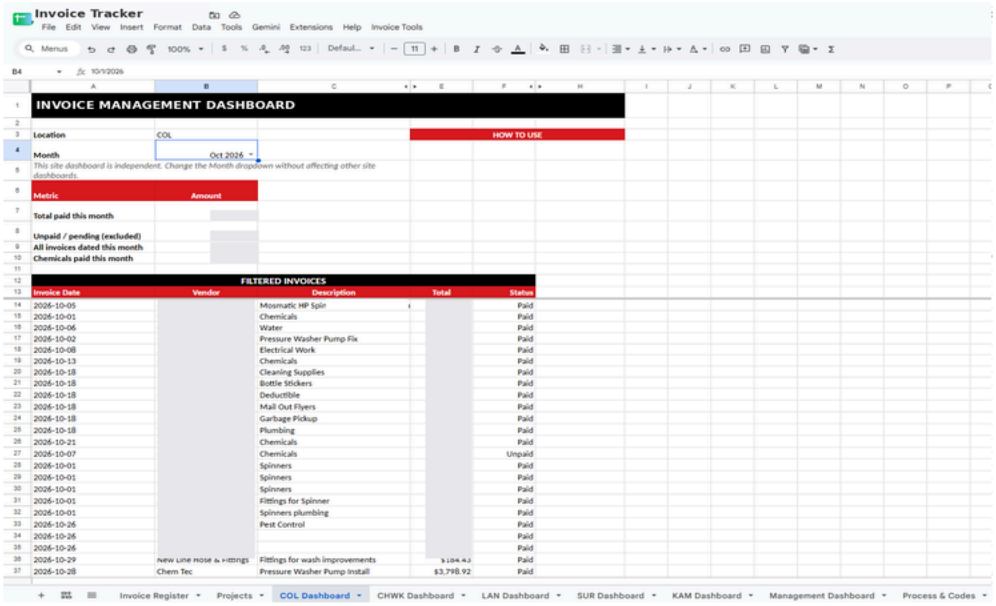
Product (our name)	$/mL	Nov 14, 2025 — mL/car	Nov 14, 2025 — $/car	Jan 2, 2026 — mL/car	Jan 2, 2026 — $/car	May 28, 2026 — mL/car	May 28, 2026 — $/car	Oct 28, 2026 — mL/car	Oct 28, 2026 — $/car	Notes
Hands On Bucket Soap (Hands on)	$0.0010							0.29	$0.000	
S/C Wheel and Tire (Super Con)	$0.0073	14.16	$0.103	11.30	$0.082	31.45	$0.230	22.56	$0.165	Biggest draw in the tunnel
Paradise Foam (Paradise)	$0.0065	5.26	$0.034	12.83	$0.083	18.28	$0.119	16.78	$0.109	
ASH Drying Agent (Drying)	$0.0126	10.30	$0.130	8.66	$0.109	4.02	$0.051	2.48	$0.031	
Waterlily Fragrance (Scent)	$0.0134	0.31	$0.004	0.00	$0.000	5.23	$0.070	0.12	$0.002	
Proformance Lo pH Blue (Blue)	$0.0056	9.09	$0.051	7.69	$0.043	7.57	$0.042	6.65	$0.037	
Proformance Lo pH Red (Red)	$0.0056	7.23	$0.040	11.85	$0.066	11.44	$0.064	9.83	$0.055	Next tune candidate if Yellow holds
Proformance Lo pH Yellow (Yellow)	$0.0056	5.19	$0.029	25.16	$0.141	19.05	$0.107	15.86	$0.089	Tested on Orange 1:136 tip — drew ~2x nominal (low visco
AAP Extreme Shine (Wax)	$0.0178	2.24	$0.040	2.20	$0.039	10.05	$0.179	4.51	$0.080	
Velocity Clear Coat (Clear)	$0.0113	8.00	$0.090	3.60	$0.041	0.16	$0.002	2.21	$0.025	
AAP Ceramic Seal (Ceramic)	$0.0186	5.84	$0.109	4.79	$0.089	11.83	$0.220	4.87	$0.091	
CTW Hi Silicone Tire Dressing (Tire Shine Barr	$0.0171	31.07	$0.531	23.57	$0.403				$0.1	to Online Tire jugs after last barrel
Heavy Duty Alkaline Presoak (HDAP)	$0.0080								$0.0	uct — no usage data in this test window
TOTAL $/CAR (measured products)			$1.162		$1.097				$0.7	
How to use this tab: each vendor titration test a		dds two columns (mL/car and $/car) to the right. Compare a chemical's mL/car across tests					chan	usage		
mL/car here is from the vendor's test/report (Se							pt 30–Oct 28 window). Tests lag tip changes — note in the Notes column which tip was in w			
Tip settings and change history live on the Dilut							ion Settings tab.			

Chemicals On Hand | Cost Per Car | Cost Per Car By Chemical | Dilution Settings | Titration Trend(C&I Reports)

Chemical usage and cost trends support validation after configuration changes.

05 | Additional business automation

Invoice management: Site-specific and consolidated dashboards track invoice dates, vendors, amounts, paid/unpaid status and categories to simplify monthly financial review.



Development approach

Define the problem and business rules > prototype with Claude, ChatGPT, Google Sheets and Apps Script / integrations > validate outputs against real examples > correct issues > deploy, document and refine. AI assistants generate substantial portions of the code; I direct the design, implementation, testing and operational decisions.

Background: 20 years of Toyota manufacturing and continuous improvement, followed by operations leadership and hands-on AI workflow development.

06 | Autonomous AI client diagnostic agent

Built an end-to-end autonomous workflow in Make.com that moves from client intake and operational diagnosis to quantified opportunities, recommendations and a professionally formatted client-facing report.

Automated workflow

01 Client intake
Collects and organizes client operational inputs and baseline data.

02 AI diagnosis
Examines processes and metrics to identify bottlenecks, waste and root causes.

03 Savings analysis
Estimates financial opportunities and ranks improvement priorities.

04 Action planning
Builds recommended actions, a 30/60/90-day plan and KPI scoreboard.

05 Report generation
Assembles findings into a structured, professional client-facing document and PDF.

06 Follow-up & monitoring
Supports follow-up actions, repeat analyses and monitoring summaries.

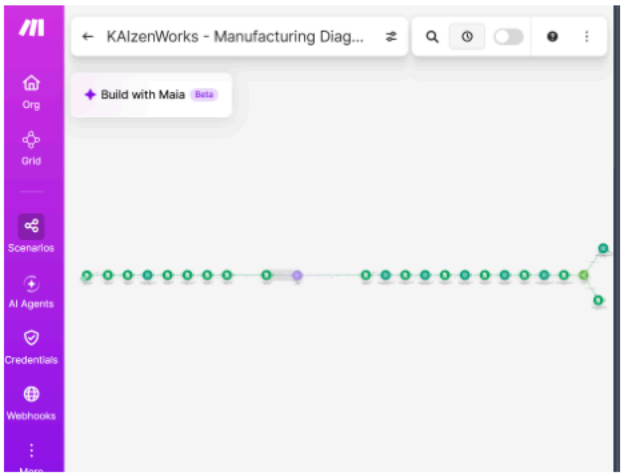
My role

Designed the workflow, defined the business rules and reporting requirements, configured the Make.com scenario, integrated AI-assisted analysis, and tested and refined the outputs.

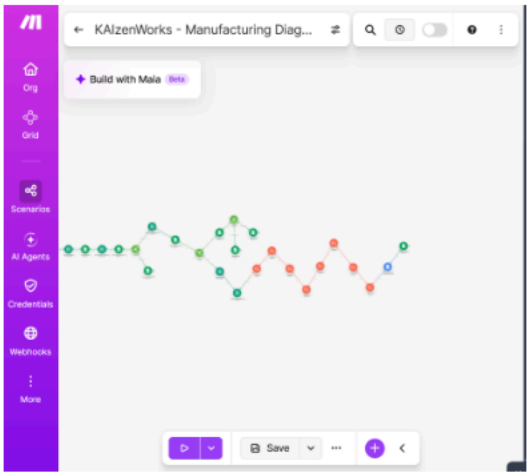
Tools: Make.com | AI-assisted analysis | Google Sheets | document / PDF output

06 | Autonomous AI diagnostic agent

Make.com workflow architecture · Two connected scenario views



Scenario view 1: sequential processing and connected automation modules



Scenario view 2: routing, branching, and downstream workflow actions

WHAT THE SYSTEM IS DESIGNED TO DO

Client intake and data preparation feed AI-assisted operational diagnosis.
Analysis identifies potential bottlenecks, waste, and financial opportunities.
Outputs include prioritized actions, a 30/60/90-day plan, and KPI guidance.
The workflow assembles a professional client-facing diagnostic report and supports follow-up and monitoring activities.

Workflow screenshots illustrate the implementation structure; outcomes depend on input data and validation.