Team: Demand Divas

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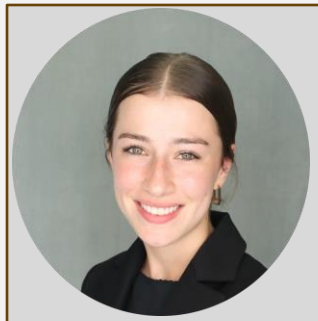


Madeline Opfer

SOPHMORE- SUPPLY CHAIN

Jenny Hosken

Undergraduate – Supply Chain

The problem is not speed but predictability

$ 7.28 Million

F.

Forecasted Buffers

L.

Less is More

O.

Optimized Routes

W.

World Class Resilience

Agenda

1. **Situational Analysis**
   Real World Scenario
2. **Situational Overview**
   The Problem at Hand
3. **F.L.O.W.**
   Forecasted Buffers
   Lowest Cost Shipping
   Optimized Routes
   World Class Resilience
4. **Implementation**
   Execution of our FLOW strategy
5. **Finances**
   An analysis of the cost and measurable ROI.
6. **Risk/Mitigation**
   Potential problems and their potential resolutions
7. **Review of Task**
   Your Ask Our Task
8. **Conclusion**
   Summary of the final picture.

Situational Analysis

F1 Crisis Scenario

Shipping Delay for McLaren

McLaren is missing its equipment, and they're days away from racing.

Executive of McLaren

Main Points

- Zack Brown, executive at McLaren, is angry because his garage and pit equipment have not arrived yet.
- Without this equipment, his team cannot properly practice.
- This disadvantage may cause one of the biggest sponsors of F1 to pull out of its Miami race.

F1 Logistics Director

Main Points

- The logistics director is stressed, as now they must figure out a way to get McLaren's garage equipment shipped
- This would delay and potentially cancel a race, which would cost F1 roughly $80 million

F1 Faces a Cost vs. Reliability Tradeoff - No Room for Failure

22 races, 21 countries, tight timelines

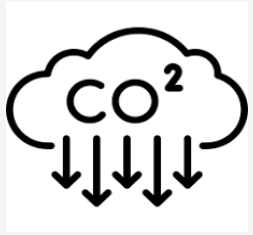
Equipment must arrive within narrow windows across 5 continents, with races often just 5-7 days apart

Built on reliance on air freight

At $25K/container vs. $5K for ocean, air freight dependency drives costs above the $22M budget target

Zero tolerance for delays

Any race-critical container arriving late equals race disruption — a reputational and operational catastrophe



Carbon Emission Use

F1 is committed to achieving net carbon zero by 2030 and is already implementing a large-scale sustainability initiative across its logistics

Forecasted Buffer

F

1 Port Delays Data

2 99.7% confidence number

3 Linear regression model

4 Flows are predictable

5 Cost Savings

Transforming ocean shipping to predictable

Less Is More

Ocean Freight

$5,000
per container

88% of all shipments

5x

Air Freight

$25,000
per container

Only for race cars (9%)

Mode Allocation by Equipment Type

Equipment	Containers	Mode	Why
Race Cars	12	Air + Truck	Unique assets — must follow every race
Garage & Pit	20	Ocean	Bundled in leapfrog sets, large buffer
Broadcast	15	Ocean	Ships with bundle, arrives before deadline
Hospitality	30	Ocean	T-28 deadline = longest lead time
Marketing	10	Ocean	Late arrival is inconvenience, not disruption

Optimized Routes

Importance Score, tier by criticality not category

Importance = (Criticality × 0.5) + (Urgency × 0.3) + (Cost× 0.2)

EQUIPMENT	QTY	CRITICALITY	URGENCY	COST	SCORE	MODE
Race Cars	12	Race-Critical	10	10	10.0	AIR
Garage & Pit	20	Race-Critical	8	7	8.3	OCEAN
Broadcast	15	High	8	6	7.1	OCEAN
Hospitality	30	Medium	5	4	3.8	OCEAN
Marketing	10	Low	3	3	2.5	OCEAN

DECISION RULE: Score ≥ 9.5 → AIR · Score 5–9.5 → OCEAN priority pool · Score < 5 → OCEAN or TRUCK

Race Car Flows


Flow 1
Melbourne
Miami
Spielberg
Zandvoort
Austin
Flow 2
Shanghai
Montreal
Spa
Monza
Mexico City
Flow 3
Suzuka
Monaco
Budapest
Baku
Lusail
Flow 4
Barcelona
Madrid
Las Vegas
Flow 5
Silverstone
Sao Paulo
Flow 6
Singapore
Abu Dhabi

World Class Resilience

Protection Strategies

Madrid Backup

Protects against ocean failure

Lead Time on Ocean

As criticality of an ocean shipped item increases, so does the lead time.

3 sigma buffer

Buffer for ocean shipments shows that 99.7% of time items will arrive within window.

Reroute in Emergencies

The large buffer for ocean shipment means we can reroute other flows if one is lagging too much.

Implementation

Implementation

This is not a technology build — it is a logistics reconfiguration. Everything happens in the off-season. Full 6-flow system is live at Race 1.

DEC — JAN — FEB — MAR — RACE 1

Procure Equipment

Purchase 5 additional equipment sets (garage, broadcast, hospitality, marketing)

Set Up Madrid Hub

Lease warehouse, staff operations, stock backup equipment set, test activation protocol

Lock In Contracts

Secure ocean freight capacity on key routes, finalize port-to-circuit ground transport agreements

Melbourne, March 8 — all 6 equipment flows deployed, Madrid hub active, 3σ buffers validated

Financial Analysis

Cost Breakdown

Category	Containers/Event	Events	Air %	Total Cost
Cars (Air)	12	19	74%	**$4,216,119**
Pit/Garage (Ocean)	35	22	0%	**$3,850,000**
Hospitality (Ocean)	30	22	0%	**$3,300,000**
Marketing (Ocean)	10	22	0%	**$1,100,000**
Subtotal				**$12,466,119**

Emergency air buffer	$2,200,000
Trucking costs (port-to-circuit)	$53,861
Total logistics cost	**$14,719,980**
Annual budget	**$22,000,000**
Remaining / available for hub ops & storage	**$7,280,020**

Spending Justification

Where We Spend

- Air freight for cars — non-negotiable for race-critical unique assets
- Madrid backup hub — insurance against catastrophic delays; ability to fly backup bundle is priceless
- Emergency air budget — confident this is an overestimate
- Inventory storage at race sites — for equipment arriving early

Where We Save

- 88%+ ocean freight — $5K vs $25K per container, saving $20K on every container shifted from air to ocean
- Bundled shipping — fewer individual shipments means lower coordination costs and fewer failure points
- Trucking for European legs — at ~$6,500/container vs. $25,000 air, ground transport saves significantly on short-haul
- $7.3M remaining budget provides margin for hub operations and unforeseen costs

Risks & Mitigation

Risk Analysis

Risk	#1 Port Congestion	#2 Customs Hold	#3 EU Truck Strike	#4 Race Date Shift
Likelihood	High	Med	Low	Med
Impact	Low	Med	Med	Med
Solution	•Port delay buffer absorbs, escalate if hospitality is late	•Pee-filed carnets. Madrid hub T-72h if fails	•Fall back to short-haul ocean. +5d lead time.	•Monitor FIA. Pool timing reviewed quarterly.

Each risk has a priority level and a solution to mitigate it's impact.

Raceday with FLOW

Mon	Cars arrived 10 days ago via scheduled air. Engineering seals intact. Setup on schedule.
Thursday	Broadcast arrived two weeks ago. Already rigged and tested.
Friday	Hospitality tents are done. Guests arrive Friday afternoon to a finished paddock.

The Race Logistics Director goes home for dinner on Wednesday night.

THE ANSWER

FLOW.

Forecasted Buffers.

Less is More.

Optimized Routes.

World Class Resilience.

Questions.

BOTTOM LINE

$14.3M	*All-in annual logistics spend*
33%	*Savings vs. $22M baseline*
88/ 9 / 3	*Ocean / Air / Truck %*
99.7%	*3σ on-time reliability*
6	*Optimized flows*

Thank You

We Will Now Open the Floor for Discussion

Appendix

Financial Questions

Budget

	A	B	C	D	E	F	G	H	I
1	Category	Containers/Event	Events	Total Containers	Air %	Air Containers	Ocean Containers	Trucking Containers	Cost
2	Cars	12	19	228	74%	168	0	60	$4,216,119.00
3	High/Pit	35	22	770	0%	0	770	0	$3,850,000.00
4	Medium	30	22	660	0%	0	660	0	$3,300,000.00
5	Low	10	22	220	0%	0	220	0	$1,100,000.00
6									
7							Total Cost		$12,466,119.00
8							Buffer		$2,200,000.00
9							Total Trucking Costs		$53,860.50
10							Budget		$22,000,000.00
11							Remaining		$7,280,020.50
12									

Trucking Costs

	A	B	C	D	E	F
1	Where	Distance Miles	Containers weight	CostPerMilePerContainer	Total Truck Cost	Cost of Air
2	Zandvoort to Madrid	1107	36	0.15	$ 5,977.80	25,000
3	Budapest to Monza	590	36	0.15	$ 3,186.00	25,000
4	Monaco to Spielberg	516	36	0.15	$ 2,786.40	25,000
5	Spielberg to Spa	585	36	0.15	$ 3,159.00	25,000
6	Spa to Zandvoort	187	36	0.15	$ 1,009.80	25,000
7	Mexico City to Vegas	1735	36	0.15	$ 9,369.00	25,000
8						
9				Total Costs of Trucking	$ 25,488.00	$ 150,000.00
10						
11				Amount Saved:	$ 124,512.00	
12						
13						
14						
15						
16						
17						

Key Assumptions

- Trucking will be used as a transportation method when locations are close and time allows.
- There are 6 duplicates of each bundle of garage, broadcast, hospitality, and marketing, and the cars have two duplicates.
- Lead time varies according to distance when shipped by ocean
- The average price of sending one container by truck is $6,500.
- A central hub is in Madrid, with a backup of all but the car containers in case of extenuating delays
- Race items that arrive early can be stored at the site of the race until it's ready to be set up
- The races that were voided (Bahrain and Saudi Arabia) for the current F1 season were removed in our study

Sources

- https://aplcargo.com/delivery-timelines-in-land-freight-transportation-explained/
(Trucking Info Times)

- https://www.espn.com/f1/story/_/id/48203712/f1-cancel-bahrain-saudi-arabia-races-iran-war
(F1 Canceled 2 Races ESPN Article)

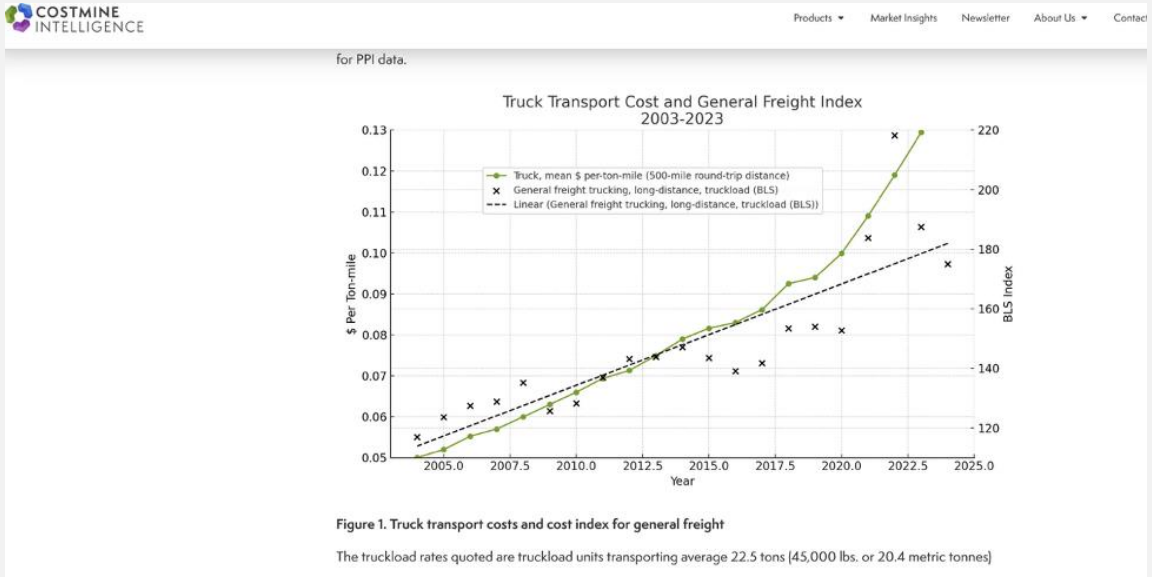


Figure 1. Truck transport costs and cost index for general freight

The truckload rates quoted are truckload units transporting average 22.5 tons (45,000 lbs. or 20.4 metric tonnes)

- https://www.kymillman.com/blog/f1-logistics-the-insane-operation-behind-every-f1-race/?srsltid=AfmBOoorFo1PJE_r00x0wbdLOv0dW7ENvDyrfdAyCqlPlshn7aEoYVTN
(Proof F1 carries multiple sets of hospitality, broadcasting, and garage equipment, leapfrog)

Models

Ocean	Melbourne	Shanghai	Suzuka	Miami	Montreal	Monaco	Barcelona	Spielberg	Silverstone	Spa	Budapest	Zandvoort	Monza	Madrid	Baku	Singapore	Austin	Mexico City	Sao Paulo	Las Vegas	Lusail	Abu Dhabi
Melbourne	0	5058	4480	9540	10800	8320	8150	8500	11400	11550	8700	11600	8450	8200	7200	3500	8600	8100	7800	7900	6600	6450
Shanghai	5058	0	580	10200	11500	8400	8600	8700	10500	10700	8800	10800	8550	8800	6800	2250	9100	8800	10500	5400	6200	6100
Suzuka	4480	580	0	9800	11100	8900	9100	9200	10900	11100	9300	11200	9050	9300	7300	2800	8600	8300	10200	4900	6700	6600
Miami	9540	10200	9800	0	1450	4150	3850	4800	3550	3700	5100	3800	4300	3600	6800	10500	950	1150	4200	2600	8400	8550
Montreal	10800	11500	11100	1450	0	3650	3350	4300	2750	2900	4600	3000	3800	3100	6300	11800	2200	2400	5100	3500	7900	8050
Monaco	8320	8400	8900	4150	3650	0	350	500	2450	2600	950	2650	120	550	3400	6600	5000	5250	5100	5600	3150	3300
Barcelona	8150	8600	9100	3850	3350	350	0	800	2150	2300	1200	2350	450	280	3700	6300	4700	4950	4850	5300	3400	3550
Spielberg	8500	8700	9200	4800	4300	500	800	0	3100	3250	400	3300	400	1100	3100	6400	5600	5850	5500	6200	2900	3050
Silverstone	11400	10500	10900	3550	2750	2450	2150	3100	0	250	3400	220	2600	1000	5800	8400	4400	4650	5250	4900	6200	6350
Spa	11550	10700	11100	3700	2900	2600	2300	3250	250	0	3550	120	2750	1150	5950	8550	4550	4800	5400	5050	6350	6500
Budapest	8700	8800	9300	5100	4600	950	1200	400	3400	3550	0	3600	850	1500	2800	6100	5900	6150	5800	6500	2600	2750
Zandvoort	11600	10800	11200	3800	3000	2650	2350	3300	220	120	3600	0	2800	1200	6000	8600	4650	4900	5450	5150	6400	6550
Monza	8450	8550	9050	4300	3800	120	450	400	2600	2750	850	2800	0	700	3300	6500	5150	5400	5250	5750	3050	3200
Madrid	8200	8800	9300	3600	3100	550	280	1100	1000	1150	1500	1200	700	0	4000	6600	4500	4750	4600	5100	3700	3850
Baku	7200	6800	7300	6800	6300	3400	3700	3100	5800	5950	2800	6000	3300	4000	0	4800	7600	7850	6800	8200	1300	1450
Singapore	3500	2250	2800	10500	11800	6600	6300	6400	8400	8550	6100	8600	6500	6600	4800	0	10100	9800	8400	7600	3550	3400
Austin	8600	9100	8600	950	2200	5000	4700	5600	4400	4550	5900	4650	5150	4500	7600	10100	0	750	4900	1800	9200	9350
Mexico City	8100	8800	8300	1150	2400	5250	4950	5850	4650	4800	6150	4900	5400	4750	7850	9800	750	0	4600	1500	9450	9600
Sao Paulo	7800	10500	10200	4200	5100	5100	4850	5500	5250	5400	5800	5450	5250	4600	6800	8400	4900	4600	0	5400	6500	6650
Las Vegas	7900	5400	4900	2600	3500	5600	5300	6200	4900	5050	6500	5150	5750	5100	8200	7600	1800	1500	5400	0	9800	9950
Lusail	6600	6200	6700	8400	7900	3150	3400	2900	6200	6350	2600	6400	3050	3700	1300	3550	9200	9450	6500	9800	0	180
Abu Dhabi	6450	6100	6600	8550	8050	3300	3550	3050	6350	6500	2750	6550	3200	3850	1450	3400	9350	9600	6650	9950	180	0

- How Distances were calculated

	2020	2021	2022	2023	2024	2025	2020	2021	2022	2023	2024	2025
Port												
Algeciras	4.89	5.22	4.46	3.73	3.90	3.39	0.01	0.01	0.01	0.01	0.01	0.01
Ambarli	4.19	5.41	2.94	3.39	3.98	9.54	0.01	0.01	0.03	0.03	0.02	0.01
Antwerp	4.48	3.65	2.80	3.01	3.65	3.43	0.36	0.32	0.20	1.02	0.32	0.25
Balboa	2.99	2.42	1.38	1.75	1.31	2.21	0.20	0.16	0.28	0.17	0.11	0.24
Barcelona	4.82	4.25	4.56	4.00	4.24	4.61	0.23	0.20	0.20	0.25	0.16	0.19
Bremen/Breme	3.33	3.79	2.90	4.24	4.08	4.02	0.10	0.08	0.03	0.10	0.08	0.16
Busan	3.69	4.02	3.70	4.37	3.33	3.33	0.03	0.04	0.03	0.05	0.06	0.03
Nice	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0.04	0.09	0.07	0.15	0.12	0.07
Callao	3.81	4.27	4.01	3.76	2.47	3.39	0.10	0.19	0.11	0.13	0.11	0.15
Cartagena	9.40	8.17	7.27	8.81	7.78	8.18	0.08	0.03	0.02	0.07	0.02	0.01
Charleston	3.67	3.15	2.86	3.16	2.96	4.34	0.20	0.24	0.29	0.20	0.30	0.41
Chittagong	8.97	4.23	3.22	5.13	8.66	9.08	3.20	1.82	0.96	1.14	0.55	0.35
Colombo	4.19	5.24	5.04	3.74	2.63	3.90	0.65	0.64	0.79	0.48	0.46	0.69
Colón	3.00	4.83	5.44	3.44	3.22	3.15	0.09	0.12	0.14	0.25	0.20	0.33
Barcelona	4.82	4.25	4.56	4.00	4.24	4.61	0.23	0.20	0.20	0.25	0.16	0.19
Durban	2.88	2.29	2.41	2.37	2.76	2.28	0.17	0.13	0.15	0.19	0.38	0.22
Felixstowe	3.61	3.53	3.20	3.05	3.48	3.31	0.06	0.04	0.24	0.02	0.06	0.02
Fuzhou	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0.30	0.41	0.37	0.48	0.21	0.47
Gdansk	3.96	4.06	4.30	5.85	4.31	4.24	0.50	0.30	0.36	0.30	0.31	0.28
Montreal	5.00	7.14	6.20	4.77	5.26	5.71	0.21	0.20	0.34	0.35	0.44	0.35
Gioia Tauro	2.58	2.01	5.83	5.94	3.91	3.77	0.04	0.12	0.17	0.03	0.06	0.10

	2020	2021	2022	2023	2024	2025	Sum times								
Port													average	std dev	delay within 99.87% certainty
Algeciras	1.05	0.88	1.00	1.06	1.03	1.08	5.95	6.11	5.47	4.80	4.94	4.48	5.29	0.66	7.26
Ambarli	0.94	0.94	0.91	0.92	0.95	0.93	5.14	6.36	3.88	4.34	4.95	10.48	5.86	2.42	13.10
Antwerp	1.21	1.36	1.22	2.01	1.36	1.35	6.05	5.33	4.22	6.04	5.33	5.03	5.33	0.68	7.39
Balboa	1.36	1.32	1.19	1.30	1.41	1.26	4.55	3.90	2.85	3.22	2.83	3.71	3.51	0.67	5.53
Barcelona	0.95	0.82	0.81	0.80	0.78	0.90	6.00	5.27	5.57	5.05	5.18	5.70	5.46	0.36	6.54
Bremen/Brem	1.28	1.16	1.05	1.07	1.01	1.17	4.71	5.03	3.98	5.41	5.17	5.35	4.94	0.53	6.54
Busan	0.97	0.93	0.89	0.97	0.93	0.94	4.69	4.99	4.62	5.39	4.32	4.30	4.72	0.42	5.97
Nice	0.74	0.82	0.79	0.91	0.85	0.84	0.78	0.91	0.86	1.06	0.97	0.91	0.92	0.10	1.20
Callao	0.91	0.94	0.88	0.90	0.78	0.82	4.82	5.40	5.00	4.79	3.36	4.36	4.62	0.70	6.73
Cartagena	0.71	0.72	0.74	0.81	0.74	0.71	10.19	8.92	8.03	9.69	8.54	8.90	9.05	0.78	11.39
Charleston	0.99	0.99	0.92	0.91	0.96	0.94	4.86	4.38	4.07	4.27	4.22	5.69	4.58	0.61	6.40
Chittagong	3.02	2.93	2.66	2.43	2.46	2.46	15.19	8.98	6.84	8.70	11.67	11.89	10.55	2.97	19.47
Colombo	1.16	1.18	1.09	1.00	1.07	1.01	6.00	7.06	6.92	5.22	4.16	5.60	5.83	1.09	9.10
Colón	1.15	1.19	1.07	1.02	1.00	0.99	4.24	6.14	6.65	4.71	4.42	4.47	5.11	1.02	8.17
Barcelona	0.95	0.82	0.81	0.80	0.78	0.90	6.00	5.27	5.57	5.05	5.18	5.70	5.46	0.36	6.54
Durban	3.19	3.11	3.59	3.60	3.31	3.19	6.24	5.53	6.15	6.16	6.45	5.69	6.04	0.35	7.09
Felixstowe	1.66	1.45	1.57	1.73	1.60	1.87	5.33	5.02	5.01	4.80	5.14	5.20	5.08	0.18	5.63
Fuzhou	0.66	0.72	0.71	0.73	0.81	0.75	0.96	1.13	1.08	1.21	1.02	1.22	1.10	0.10	1.41
Gdansk	1.93	1.49	1.48	2.41	1.67	1.42	6.39	5.85	6.14	8.56	6.29	5.94	6.53	1.02	9.58
Montreal	1.92	1.57	1.44	1.66	1.41	1.63	7.13	8.91	7.98	6.78	7.11	7.69	7.60	0.77	9.92
Gioia Tauro	1.55	1.34	1.49	1.60	1.51	1.47	4.17	3.47	7.49	7.57	5.48	5.34	5.59	1.68	10.63
Guayaquil	1.14	1.10	1.08	1.04	1.03	1.08	6.64	10.01	7.13	9.33	9.00	7.00	8.19	1.43	12.47
Hai Phong	0.83	0.86	0.84	0.84	0.81	0.80	7.57	6.71	5.60	7.23	7.13	8.60	7.14	0.99	10.10
Hamburg	1.60	1.75	1.57	1.56	1.63	1.80	5.69	5.37	5.13	5.31	4.96	4.96	5.24	0.28	6.08
Ho Chi Minh C	0.64	0.67	0.71	0.69	0.69	0.70	6.88	9.89	9.33	5.00	8.70	6.08	7.65	1.95	13.50
Hong Kong	0.98	0.49	0.99	0.96	0.78	0.77	4.66	4.18	4.83	5.48	4.74	4.97	4.81	0.42	6.08
Houston	2.14	2.24	2.29	2.20	1.93	2.65	5.94	5.66	6.48	5.69	5.30	6.52	5.93	0.49	7.39
baku	0.63	0.61	0.57	0.58	0.61	0.57	3.52	6.69	5.48	8.33	5.42	6.96	6.07	1.65	11.01

- Port Delay Calculations

Linear Regression

						1	2	3	4	5	6
Melbourne	1					Melbourne	Shanghai	Suzuka	Barcelona	Silverstone	Singapore
Shanghai	2					Miami	Montreal	Monaco	Madrid	Sao Paulo	Abu Dhabi
Suzuka	3					Spielberg	Spa	Budapest	Las Vegas		
Miami	1					Zandvoort	Monza	Baku			
Montreal	2					Austin	Mexico City	Lusail			
Monaco	3										
Barcelona	4										
Spielberg	1										
Silverstone	5										
Spa	2										
Budapest	3										
Zandvoort	1										
Monza	2										
Madrid	4										
Baku	3										
Singapore	6										
Austin	1										
Mexico City	2										
Sao Paulo	5										
Las Vegas	4										
Lusail	3										
Abu Dhabi	6										
22											

	Total time (days)	Total Sea Miles	Total Misses	Land miles
	345.274	72820	0	2522

Group 1

From	To	Sea miles	Sea time	in miles in days	out miles in days	Port delay	Total time
Melbourne	Miami	9540	19.08	0.006	0.012	6.67	25.768
Miami	Spielberg	4800	9.6	0.012	0.41	8.53	18.552
Spielberg	Zandvoort	3300	6.6	0.41	0.106	13.61	20.726
Zandvoort	Austin	4650	9.3	0.106	0.324	13.51	23.24
Austin	0	#N/A	#N/A	0.324	#N/A	0	#N/A
0	0	#N/A	#N/A	#N/A	#N/A	0	#N/A

		in Primary Shippin	out Primary Shippir	Delay in Delay (days)	Delay out Delay (days)	Delay total	End Date	Arrival Date	Marketing Date	Buffer for first arrival
Melbourne	Miami	Port of Melbourn	PortMiami	5.63	1.04	6.67	3/8/26	4/2/26	4/3/26	0.232
Miami	Spielberg	PortMiami	Port of Koperr (S	1.04	7.49	8.53	5/3/26	5/21/26	5/29/26	7.448
Spielberg	Zandvoort	Port of Koperr (S	Port of Rotterda	7.49	6.12	13.61	6/28/26	7/18/26	7/24/26	5.274
Zandvoort	Austin	Port of Rotterdan	Port of Houston	6.12	7.39	13.51	8/23/26	9/15/26	9/25/26	9.76
Austin	0	Port of Houston	#N/A	7.39	#N/A	#N/A	10/25/26	#N/A	#N/A	#N/A

Time total	Sea miles total	negative no nos	days land	miles number
88.286	22290	0	1.386	693

Group 2

From	To	Sea miles	Sea time	in miles in days	out miles in days	Port delay	Total time
Shanghai	Montreal	11500	23	0.094	0.012	15.65	38.756
Montreal	Spa	2900	5.8	0.012	0.186	17.31	23.308
Spa	Monza	2750	5.5	0.186	0.212	8.94	14.838
Monza	Mexico City	5400	10.8	0.212	0.498	2.67	14.18
Mexico City	0	#N/A	#N/A	0.498	#N/A	0	#N/A
0	0	#N/A	#N/A	#N/A	#N/A	0	#N/A

		in Primary Shipping Port	out Primary Shipping Port	Delay in Delay (days)	Delay out Delay (days)	Delay total	End Date	Arrival Date	Marketing	Buffer for first arrival
Shanghai	Montreal	Port of Shanghai	Port of Montreal	5.73	9.92	15.65	3/15/26	4/22/26	4/24/26	1.244
Montreal	Spa	Port of Montreal	Port of Antwerp (Belgium)	9.92	7.39	17.31	5/24/26	6/16/26	6/19/26	2.692
Spa	Monza	Port of Antwerp (Belgiun	Port of Genoa	7.39	1.55	8.94	7/19/26	8/2/26	8/7/26	4.162
Monza	Mexico City	Port of Genoa	Port of Veracruz	1.55	1.12	2.67	9/6/26	9/20/26	10/2/26	11.82
Mexico City	0	Port of Veracruz	#N/A	1.12	#N/A	#N/A	11/1/26	#N/A	#N/A	#N/A

Time total	Sea miles total	negative no nos	days land	miles number
91.082	22550	0	1.412	706

WITHOUT OUR SOLUTION

- We could've shipped location to location, but that doesn't make sense because there is minimal lead time between races.
- We could've just done Ocean and Air shipping; however, with these, there is no way to get equipment directly to races, and in some scenarios, other options are cheaper.
- We could've put our backup hub anywhere, but just anywhere doesn't ensure the most efficient delivery of backup inventory.