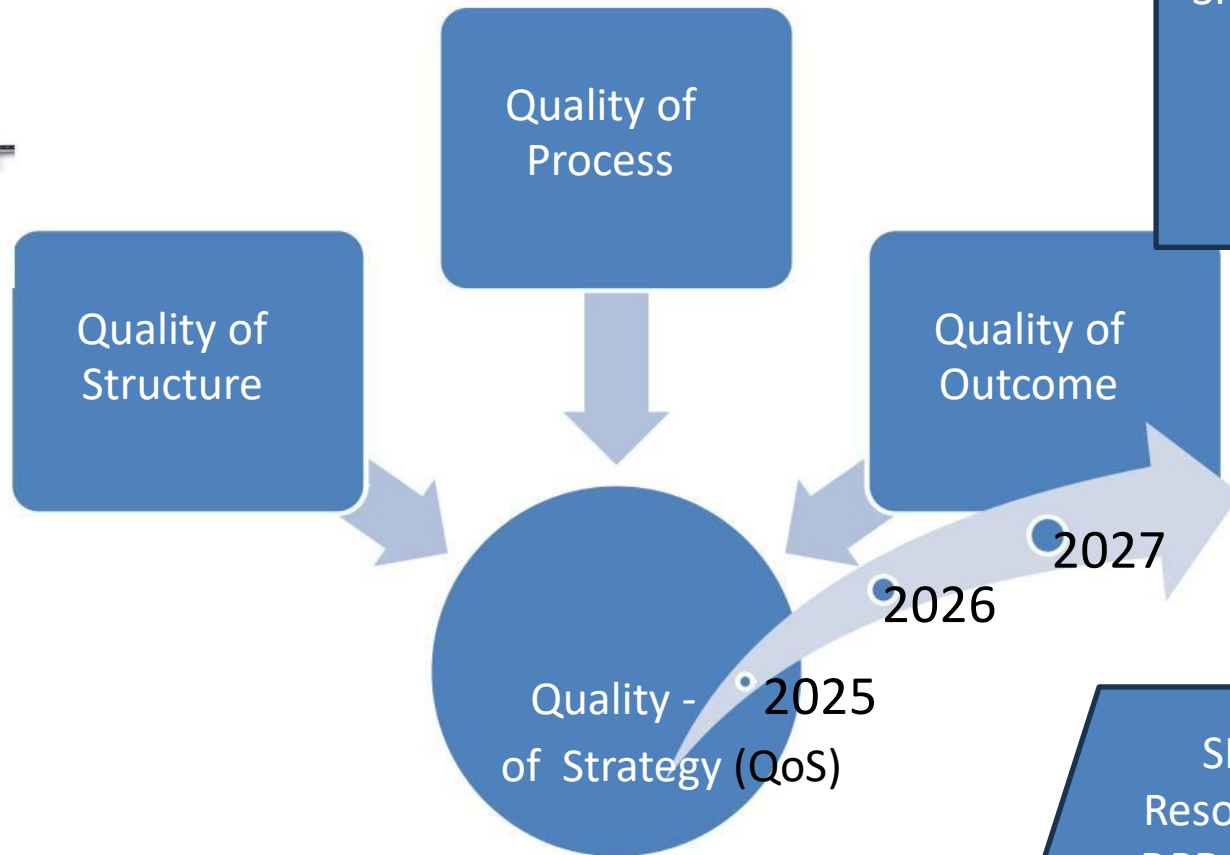


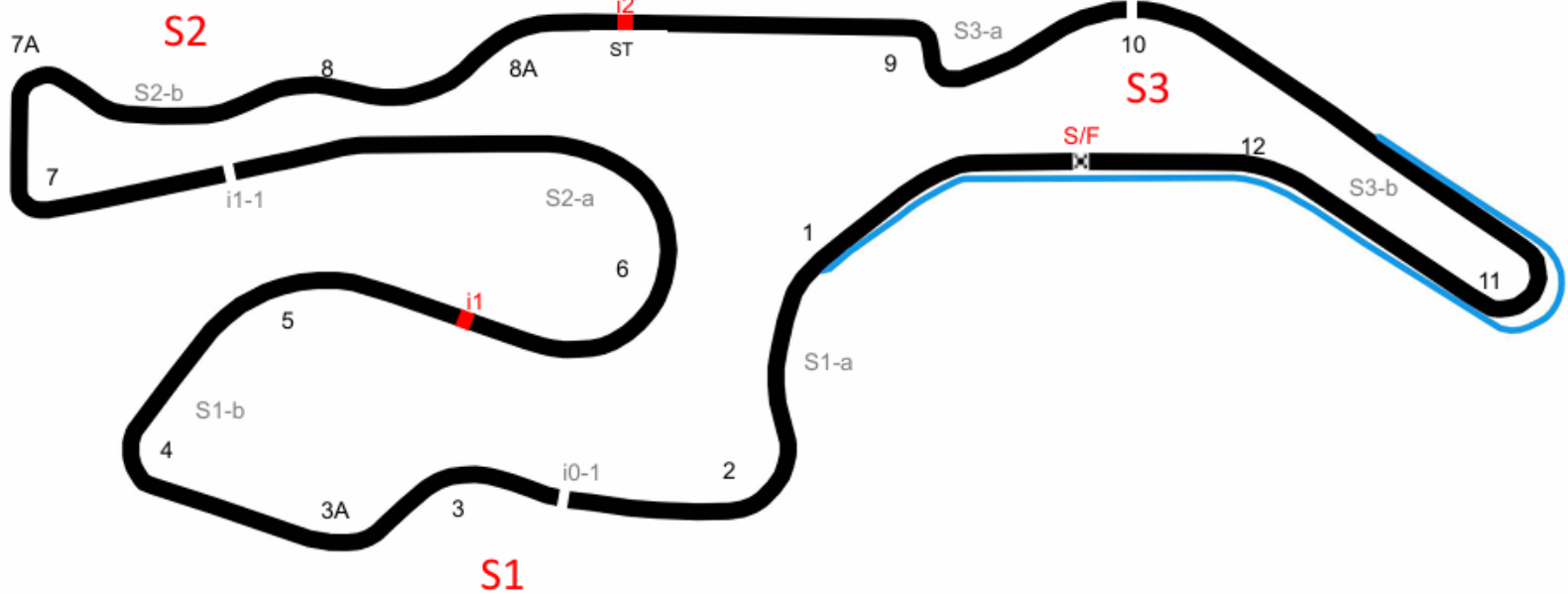
Compass model for Driver-QoS



SOLUTION:
D2P Accentuator
for using Toyota GR
Data sets and
SMART resolution
for Drive
performance
dimensioning

DATA SETS
SONOMA
RACE1
AND
RACE2

SMART
Resolution of
DPD issues or
incidences for a
Race



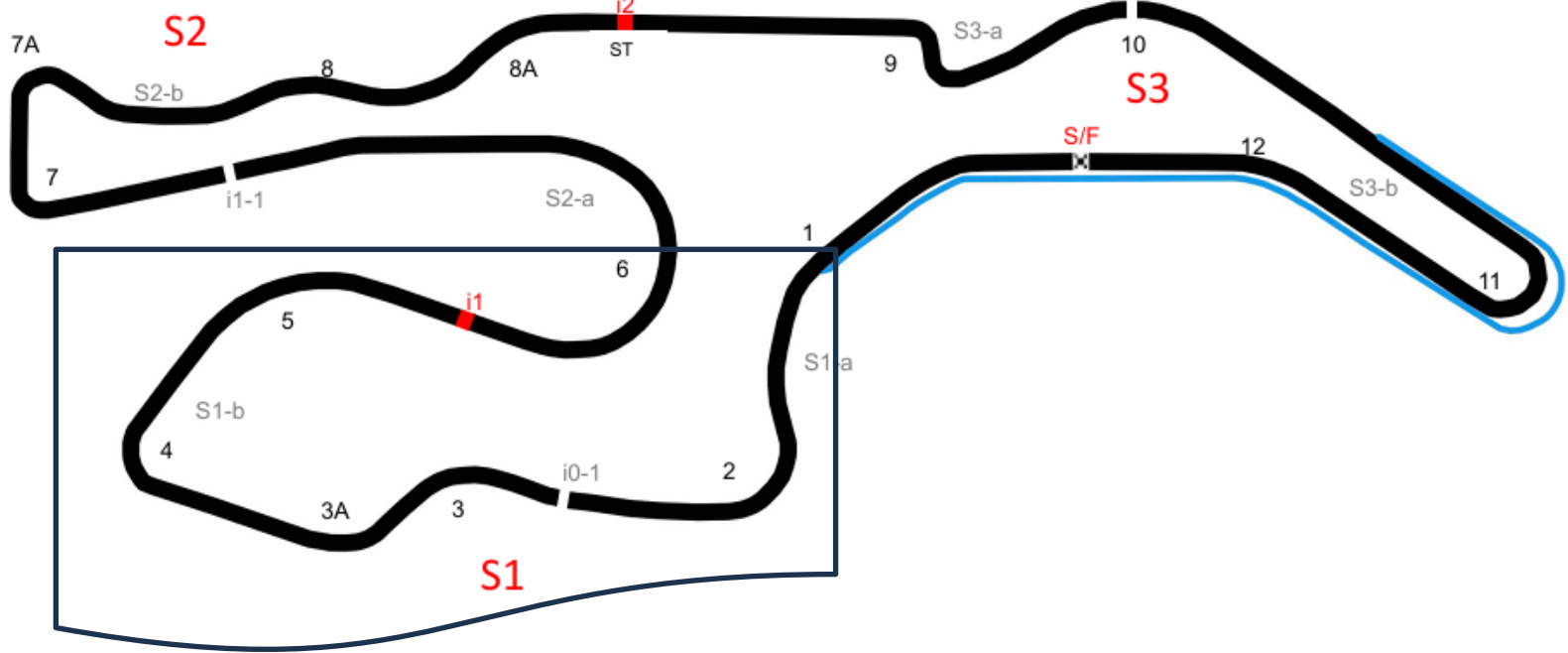
Circuit Configuration

Circuit Length	2.505 Miles
Elevation @ Finish Line	20' / 6.1m
GPS Latitude Finish & Timing Line	38.1615139° N
GPS Longitude Finish & Timing Line	-122.4547166° W
Time through pit lane @ 50 kph	45 seconds

	Inches	Meters
Circuit Center Line	158,716"	4,031.38m
Start Line Offset	na	na
Sector 1 (SF:i1)	54,520"	1,385m
Sector 2 (i1:i2)	55,976"	1,422m
Sector 3 (i2:SF)	48,220"	1,225m
Speed Trap (ST)	1,224"	31m
Pit in from SF	-20,442.9"	-519.25m
Pit Out from SFP	3,775.6"	95.9m
Pit In to Pit Out	24,564"	623.9m

DATA SETS
SONOMA
RACE1
AND
RACE2

SMART
Resolution of
DPD issues or
incidences for a
Race



Circuit Configuration

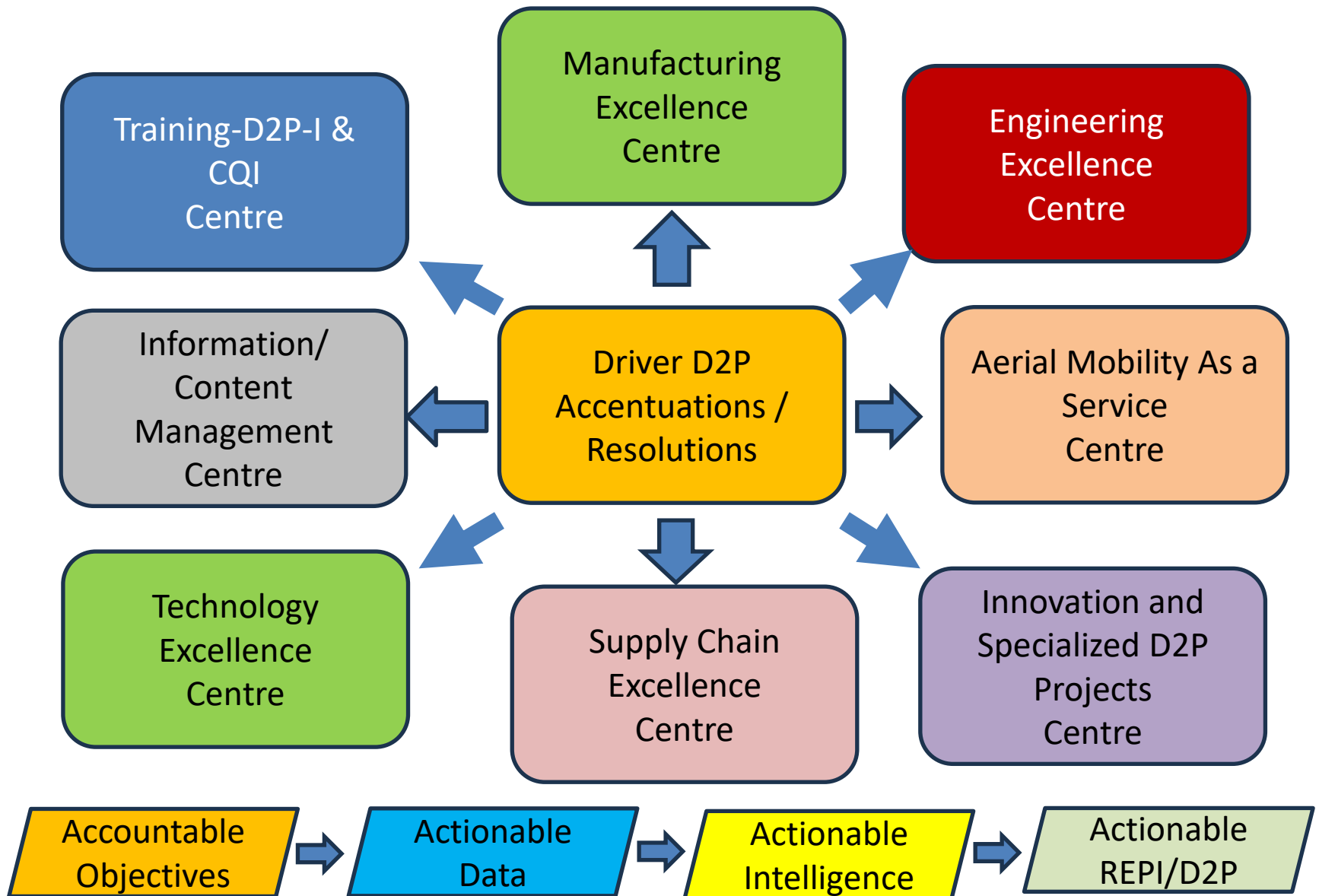
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Time through pit lane @ 50 kph	45 seconds

DATA SETS
SONOMA
RACE1
AND
RACE2

	Inches	Meters
Circuit Center Line	158,716"	4,031.38m
Start Line Offset	na	na
Sector 1 (SF:i1)	54,520"	1,385m
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Pit In to Pit Out	24,564"	623.9m

SMART
Resolution of
DPD issues or
incidences for a
Race

Compass model for Driver-QoS



A. What are the D2P Accentuation factors for bounded area :Sector 1 from S/F point

There are many different factors such as

1. Different types of bends or curves with Quality of structure demarcations called S1-A and S1-B where Quality of process Drive performance dimensioning can ensure drive responsiveness
2. There is one sector Quality of structure pullout entry/exit point i0-1
3. There is one related Quality of structure crossover point between sector S1 and S2
4. There is no Quality of structure and Quality of process PSW point but the PSW / Race pullout point i0-1 needs to be used to drive to the PSW
5. Sudden Quality of structure changes are there in the Quality of process width of the road in bounded area :Sector S1
6. No Underlying strips Quality of structure and Quality of process cross-over issues for driving from sector S1 to sector S2
7. Q u a l i t y o f o u t c o m e D r i v i n g i n S e c t o r 1 c a n b e a f f e c t e d b y Quality of process violators and lack of driving norms
8. Quality of process and Quality of outcome Hotspots in crossing over from Sector S1 cannot be addressed till driving past S2-A curves
9. Sector 1 can be termed to be D2P Accentuator-data defined for driver fitness with drive guidance
10. Sector 1 can be incorporated with D2P Accentuated-feedback systems that alert or mitigate risks and hazards at sub-regions 1, 2,3,3A,4, 5 and S1&S2 (*6)

Compass model for Driver-QoS

B. What can be done to reduce issues or need for self-assessments of driver fitness for QoS for sectors of this map?

For DPD factors of S!, Accidents are commonly due to driver negligence, lack of continual awareness, or being unfit to drive (due to fatigue, due to other incidences, due to being unplanned for maintaining position in an increasing lap count).

The Driver-QoS solution is to design preliminary recordings of driver fitness for **qualifying or training rounds** of the challenge (event). The recordings can be stored in a GRADED-D2P-**base-pool** (compiled by the Driver & Co-driver team, the PSW/Workshop team, the DPD Analytics team). The LAP-GRADED-D2P-BEST version recordings can be included in a GRADED-D2P-**Fitness-training** database, and then compared with a subsequent or less efficient LAP-GRADED-D2P-NAT version that is then stored in a **GRADED-D2P-Fitness-test** database that can be evaluated by the D2P-NAT teams (for driver or co-driver issues, or mandatorily for PSW/Workshop issues, or as demanded by sector related incidences demands) before the start of the rally/race/event/round, where a NAT resolution process/accentuator identifies the top 10 resolutions.

Compass model for Driver-QoS

B. (continued)

The D2P-NAT teams will need to assess QoS (Quality of structure), QoI, QoP, QoS sections of the **GRADED-D2P-Fitness-test recordings**, where the response to each section is submitted and assessed for approval. The approval can be **Best, Pass, Warning or Fail**.

A Fail in a specific section may mean that the grading cannot help the D2P any further, and the driver is told to immediately abstain from driving with the planned QoS.

In case of a **Warning result in any section**, the Under-instructions-for-graded-NAT resolutions for the QoS, QoI, QoP, QoS sections can help driving with the planned QoS.

In the case of a **Pass result**, the Under-instructions-for-graded-NAT **fast-track-improvements** for the QoS, QoI, QoP, QoS sections can help driving with the planned QoS.

In the case of a **Best result**, the Best-for-graded-NAT **fast-track-Accentuator**s for the QoS, QoI, QoP, QoS sections can help driving with the planned QoS.

Compass model for Driver-QoS

Version: (C. Form generated)

Date of assessment: **Time of assessment:**

Name of REN team/Driver & Co-driver team/PSW & Workshop team/DPD Analytics team:

(Exactly as it appears in the REN registrations)

REN Registration Number:

REN Grade-for-D2P-base-pool:

Valid from/Date of issue:

Valid till:

Validity:

(throughout the locations connected...)

Nature of REN permission/license:

(4W or GR editions....)

Vehicle Registration No:

Reason for registering:

(Personal interest/Business interest/Occupation (Private) interest/Occupation (Government) interest/Occupation (Amateur racer interest)/ Occupation (Professional racer interest)

Compass model for Driver-QoS

1. Undertaking form by Driver and Co-driver team (Tick as applicable)

- ☐ I will not consume any alcohol while driving
- ☐ I will not use any drugs while driving
- ☐ I am as deemed physically fit to drive
- ☐ I am as deemed mentally fit to drive
- ☐ I will adhere to the rule of fastening seatbelts
- ☐ I will adhere to the rule of wearing protective headgear (driver & co-driver)
- ☐ I am driving a vehicle of permissible weight (as mentioned in the license)
- ☐ I am aware and will comply with the duty of the driver to stop or remain stationery (when required to do so, or when there is an accident)
- ☐ I am aware and will comply with the duty of the driver to report any case of an accident and injury to a person/person(s) (exceptions only as mentioned in the rules and regulations)

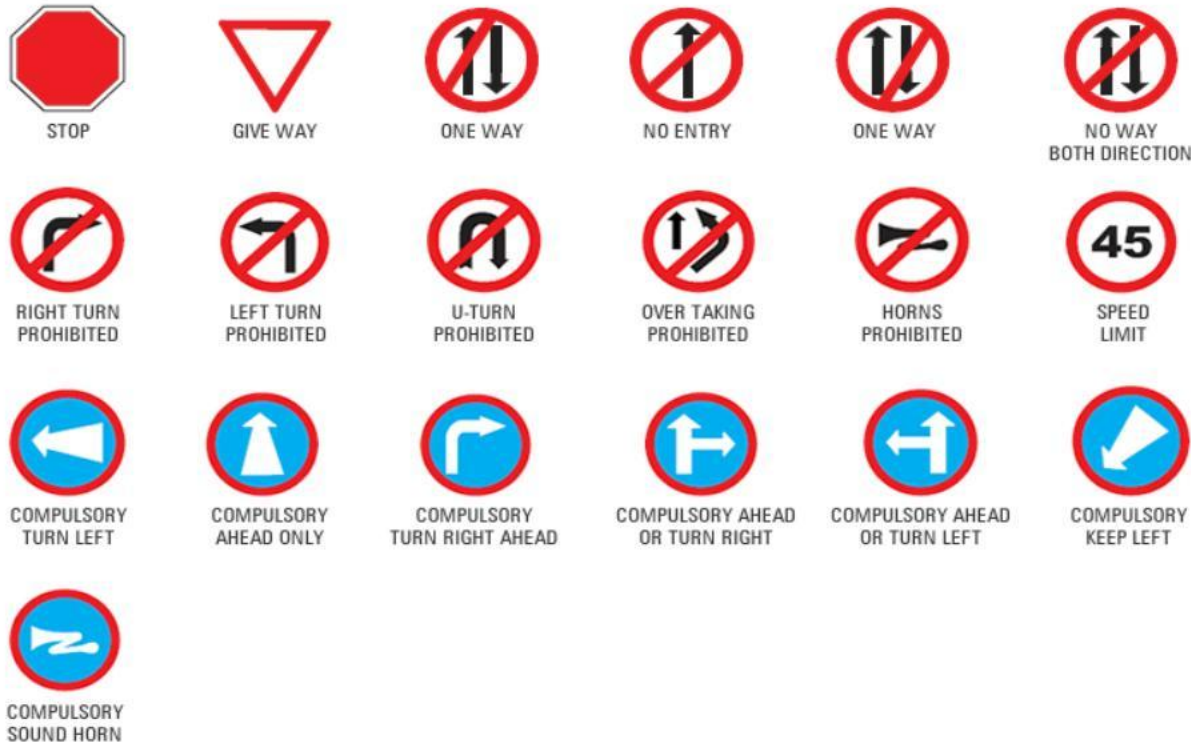
Submit...

Reset...

Driver QoS CCTV...

Undertaking response approval: _____

(The report will display Pass/Fail/Warning)



Generating
Mandatory LSS-for-
rally signs in a sector

As applicable, Generating Mandatory LSS-for-rally or traffic signs in Sectors or Indian road systems

Compass model for Driver-QoS

2. Visual assessment form (Mandatory signs and response)

M4A/ M4B/ M5 FOR EXAMPLE	NAT-team response:	
M14/ M15/M16 FOR EXAMPLE	NAT-team response:	
M29-M33 FOR EXAMPLE	NAT-team response:	
Submit...	Reset...	Driver-QoS CCTV...

Mandatory signs response approval: _____

(The report will display Best/Pass/Fail/Warning)

				
Right Hand Curve	Left Hand Curve	Right Hair Pin Bend	Left Hair Pin Bend	Right Reverse Bend
				
Left Reverse Bend	Steep Ascent	Steep Descent	Narrow Road Ahead	Road Wideness Ahead
				
Narrow Bridge	Slippery Road	Loose Gravel	Cycle Crossing	Pedestrian Crossing
				
School Ahead	Men at Work	Cattle	Falling Rocks	Ferry

Generating
Cautionary LSS-for-
rally signs in a sector

As applicable, Generating Cautionary
LSS-for-rally/traffic signs in Sectors or
Indian road systems

Compass model for Driver-QoS

3. Visual assessment form (Cautionary signs and response)

C2-C7 FOR EXAMPLE	NAT-TEAM's response:
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C8-C14 FOR EXAMPLE	NAT-TEAM's response:
--------------------------	----------------------

C16-C37 FOR EXAMPLE	NAT-TEAM's response:
---------------------------	----------------------

Submit...	Reset...	Driver QoS CCTV...
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Cautionary signs response approval: _____

(The report will display Best/Pass/Fail/Warning)

Compass model for Driver-QoS

4. DPD/QoS/QoI/QoP/QoS Rules section

This section will display a statement or summary of a rule, and ask for the NAT-Team's response as Yes or No. The rules will be chosen from the DPD/QoS/QoI/QoP/QoS Regulations (D2P Accentuation version based) and as seen relevant by NSSR RS or RS Hub Guidelines to reduce accidents.

The statement or summary should be easy for the NAT-TEAM to interpret textual detail and respond on the basis of his or her knowledge of what is evaluated from the recording, keeping in mind that these rules are meant to be value mapped prior to entering or participating in a rally/race/event

The statement or summary can also necessitate that the NAT-TEAM can read or respond to basic questions in a language known. Today the GOI's RTO expects that most applicants enclose a tenth standard passing certificate while applying for a driving license.

Compass Model for Driver-QoS

4. DPD/QOST/QoI/QoP/QoS Rules (Regulations and response)

ERegulation 1: The driver needs to pass or overtake from the side of all vehicles proceeding in the same direction

NAT-TM's
response:
[] Yes or No

Regulation 2: The driver can pass a vehicle (proceeding in the same direction) from the mandatory sign safety side if the driver of the other vehicle needs to turn right

NAT-TM's
response:
[] Yes or No

Regulation 3: The driver shall slow down when approaching a Curve, a Junction or intersection or crossing until the safety of other vehicles is not endangered

NAT-TM's
response:
[] Yes or No

Submit...

Reset...

Driver-QoS CCTV...

Sample rules response approval: _____

(The report will display Best/Pass/Fail/Warning)

Compass Model for Driver-QoS

5. Night driving section

This section will display a statement, or summary of a question in different colors (that the NAT-Team should be able to read while run on a Driver-QoS CCTV recording) which checks response while driving at night, or while driving without breaks, or while driving when the weather conditions are not suitable.

The statement or summary does also necessitate that the driver can read or respond to basic questions in a language known to him or her. The colors can ensure that the driver has good eyesight and can distinguish or differentiate colors.

Compass Model for Driver-QoS

5. Night driving section form (Regulations and response)

Regulation 1: The driver must ensure that the vehicle's lamps are in working condition and must use them as per NAT-TEAM norms to ensure safety other vehicles

NAT-TM's
response:
[] Yes or No

Regulation 2: The driver must overtake, turn or pull over bas per the NAT-Team's norms with sufficient time for response by other drivers

NAT-TM's
response:
[] Yes or No

Regulation 3: The driver shall stop at a safe place and wait/drive as per NAT-TEAM norms when there are strong winds, storms, cyclones, other inclement weather conditions

NAT-TM's
response:
[] Yes or No

Submit...

Reset...

Driver-QoS CCTV...

Sample Night driving response approval: _____

(The report will display Best/Pass/Fail/Warning)

Compass Model for Driver-QoS

6. Fatigue and unfit driving section

As fatigue sets in during laps that are many in number or for distances that are longer than QoS guidelines, the driver can become less alert or causal unfit while driving.

A self-assessment Sign will validate whether the the driver may have slow reaction times, reduced vigilance and impaired thinking.

The self-assessment Sign will be timer based and will pop up periodically (on the driver's dashboard, that needs to be UNDISTRACTINGLY ON) if the rally/race/event time is at an odd hour of the day or involves long durations of driving.

There are various NAT-TEAM REVIEW options that can be used to test alertness via awareness of warning signs, need for adherence to norms, and even the tracking of eye movements & measurement of the length of our blinks.

Compass Model for Driver-QoS

6. Awareness of Self-assessment signs for fatigue / unfit driving from a (Public domain reference: <http://www.sleepeducation.org/sleep-topics/drowsy-driving>)

- Yawning - Sign
- Inability to keep eyes open - Sign
- Talking incoherently or inability to respond to questions from co-driver - Sign
- “Nodding off” and trouble keeping head up - Sign
- Inability to remember driving the last laps - Sign or Road signs
- Ending up too close to nearby vehicles in unexpected ways - Sign
- Missing expected ways to drive in curves, entry/exit points, or turns - Sign
- Drifting into other vehicle lanes, while not expected to overtake or cross - Sign

Compass Model for Driver-QoS

6 Fatigue and unfit driving form (Guided assessments and response)

Regulation 1: On the lines of the NAT-TEAM norms for causal fatigue signs

NAT-TM's
response:
[] Yes or No

Regulation 2: On the lines of the NAT-TEAM norms for warning fatigue signs

NAT-TM's
response:
[] Yes or No

Regulation 3: On the lines of the NAT-TEAM norms or as per different NSSR RS or RS Hub recommendations like fit driving for rally/race/event/track/lap

NAT-TM's
response:
[] Yes or No

Submit...

Reset...

Driver-QoS CCTV...

Sample Fatigue response approval: _____

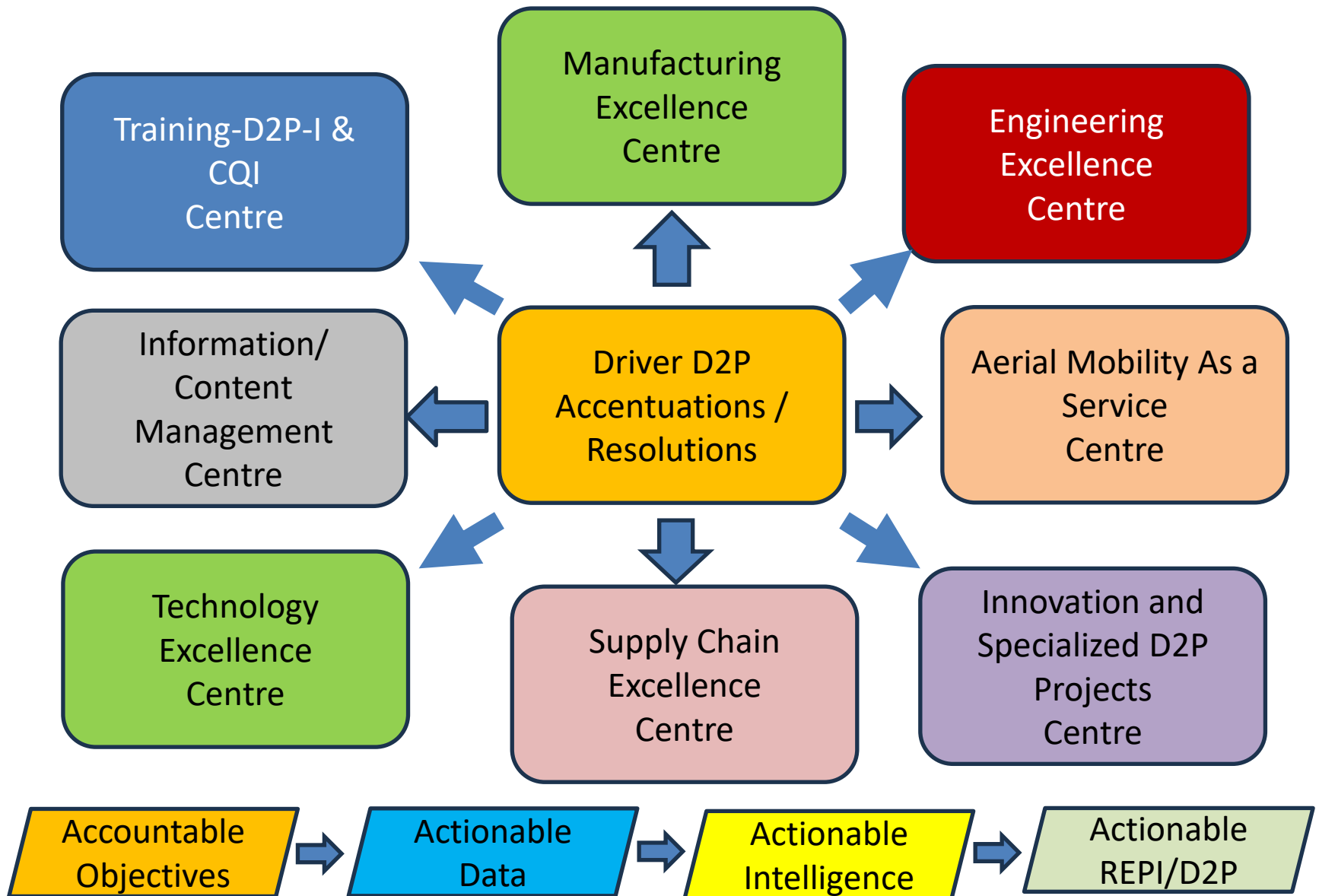
(The report will display Best/Pass/Fail/Warning)



DATA SETS
SONOMA
RACE1
AND
RACE2

SMART Resolution of DPD issues or incidences for a Race

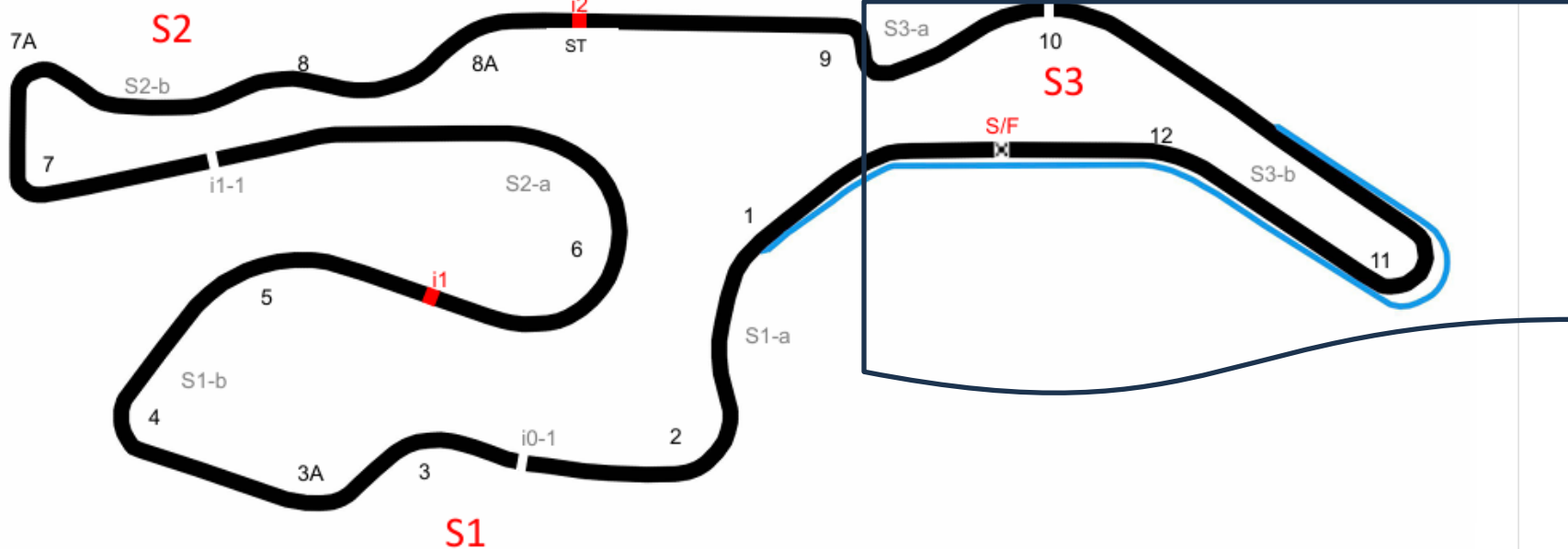
Compass model for Driver-QoS



A. What are the D2P Accentuation factors for bounded area : Sector 2

There are many different factors such as

1. Different types of bends or curves with Quality of structure demarcations called S2-A and S2-B where Quality of process Drive performance dimensioning can ensure drive responsiveness
2. There is one sector Quality of structure pullout entry/exit point i1-1
3. There is one related Quality of structure crossover point between sector S2 and S3
4. There is no Quality of structure and Quality of process PSW point but the PSW / Race pullout point i1-1 needs to be used to drive to the PSW
5. Sudden Quality of structure changes are there in the Quality of process width of the road in bounded area : sector S2
6. No Underlying strips Quality of structure and Quality of process cross-over issues for driving from sector S2 to sector S3
7. Q u a l i t y o f o u t c o m e D r i v i n g i n S e c t o r 2 c a n b e a f f e c t e d b y Quality of process violators and lack of driving norms
8. Quality of process and Quality of outcome Hotspots in crossing over from Sector S2 cannot be addressed till driving past S3-A curves
9. Sector 2 can be termed to be D2P Accentuator-data defined for driver fitness with drive guidance
10. Sector 2 can be incorporated with D2P Accentuated-feedback systems that alert or mitigate risks and hazards at sub-regions S1 & S2(*6),7,7A,8, 8A, and S2&S3 (*9)



Circuit Configuration

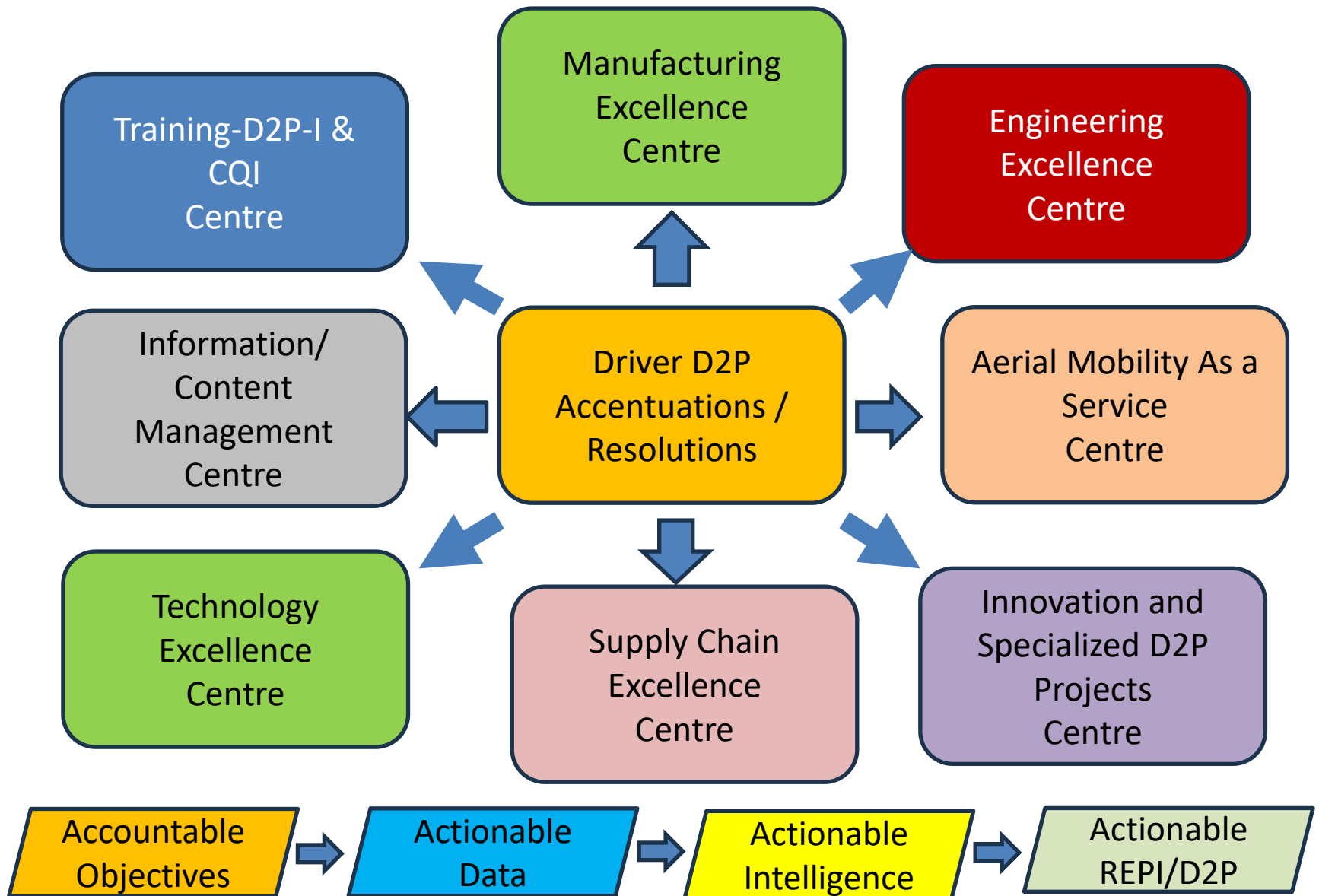
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Elevation @ Finish Line	20' / 6.1m
GPS Latitude Finish & Timing Line	38.1615139° N
GPS Longitude Finish & Timing Line	-122.4547166° W
Time through pit lane @ 50 kph	45 seconds

	Inches	Meters
Circuit Center Line	158,716"	4,031.38m
Start Line Offset	na	na
Sector 1 (SF:i1)	54,520"	1,385m
Sector 2 (i1:i2)	55,976"	1,422m
Sector 3 (i2:SF)	48,220"	1,225m
Speed Trap (ST)	1,224"	31m
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Pit In to Pit Out	24,564"	623.9m

DATA SETS
SONOMA
RACE1
AND
RACE2

SMART
Resolution of
DPD issues or
incidences for a
Race

Compass model for Driver-QoS



A. What are the D2P Accentuation factors for bounded area : Sector 3 till S/F point

There are many different factors such as

1. Different types of bends or curves with Quality of structure demarcations called S3-A and S3-B where Quality of process Drive performance dimensioning can ensure drive responsiveness
2. There is one sector Quality of structure pullout entry/exit point i2-1
3. There is one related Quality of structure crossover point between sector S3 and S1
4. There is one Quality of structure and Quality of process S/F-PSW point but the PSW / Race pullout point i2-1 also can be used to drive to the PSW
5. Sudden Quality of structure changes are there in the Quality of process width of the road in bounded area : sector S3 till S/F point
6. No Underlying strips Quality of structure and Quality of process cross-over issues for driving from sector S3 to sector S1
7. Q u a l i t y o f o u t c o m e D r i v i n g i n S e c t o r 3 c a n b e a f f e c t e d b y Quality of process violators and lack of driving norms
8. Quality of process and Quality of outcome Hotspots in crossing over from Sector S3 cannot be addressed till driving past S1-A curves
9. Sector 3 can be termed to be D2P Accentuator-data defined for driver fitness with drive guidance
10. Sector 3 can be incorporated with D2P Accentuated-feedback systems that alert or mitigate risks and hazards at sub-regions S2 & S3(*9),10,11,and 12

Compass Model for Driver-QoS

7. PSW / Workshop section

The PSW / Workshop section includes assessments of the following nature:

- ☐ Planned maintenance/repair/tuning within PIT STOP WINDOW time duration
- ☐ Preventive maintenance/repair/tuning within PIT STOP WINDOW time duration
- ☐ Corrective maintenance/repair/tuning within PIT STOP WINDOW time duration
- ☐ Driver Factors and Suspected Degradation inspection with maintenance/repair/tuning within PIT STOP WINDOW time duration
- ☐ Driver Factors and Crash worthiness inspection with maintenance/repair/tuning within PIT STOP WINDOW time duration
- ☐ Design-out REPI records/ DPD or D2P anti-quality work estimation records/Added DPD or D2P trouble shooting records post PIT STOP WINDOW time duration

Compass Model for Driver-QoS

7.PSW/Workshop form (Guided assessments and response)

Regulation 1: Clearance from Driver Factors Trouble shooting and Suspected Degradation maintenance/repair/tuning

NAT-TM's
response:
[] Yes or No

Regulation 2: Clearance from Specific for QCDES Trouble shooting and Preventive Maintenance/repair/tuning

NAT-TM's
response:
[] Yes or No

Regulation 3: Clearance from Guided for QCDES Trouble shooting and Corrective Maintenance/repair/tuning

NAT-TM's
response:
[] Yes or No

Submit...

Reset...

Driver-QoS+ CCTV...

Sample Fatigue response approval: _____

(The report will display Best/Pass/Fail/Warning)

Compass Model for Driver-QoS

7.PSW/Workshop form (Guided assessments and response)

Regulation 4: Clearance from Driver Factors and Suspected Degradation Maintenance/ repair/tuning

NAT-TM's
response:
[] Yes or No

Regulation 5: Clearance from Driver Factors and Crash worthiness Maintenance/repair/tuning

NAT-TM's
response:
[] Yes or No

Regulation 6: Clearance from vital Design-out REPI records/ DPD or D2P anti-quality work estimation records/Added DPD or D2P trouble shooting records

NAT-TM's
response:
[] Yes or No

Submit...

Reset...

Driver-QoS+ CCTV...

Sample Fatigue response approval: _____

(The report will display Best/Pass/Fail/Warning)