	National Metric Definitions
Train Service Delivery	
On Time	The percentage of Recorded Station Stops called at on time (early or <1min late)
Freight Cancellations	The number of Network Rail and Other Operator caused cancellations, as a percentage of freight trains run. This measure is a subset of the regulatory Freight Delivery Metric (FDM)
Safety	
Passenger Safety – Train Accident Risk Reduction (TARR)	Measures achievement of the key milestones and metrics to reduce train accident risk. TARR is made up of milestone targets and volume targets, both of which have different achievement weightings
Workforce Fatalities and Weighted Injuries	An index representing workforce safety, using fatalities and non-fatal injuries per hour worked. A lower FWI represents better performance
Personal Accountability for Safety	A measure of how much we are improving our culture and behaviours to help keep ourselves and our colleagues safe. The measure assesses the combined reduction in (i) Breaches in Life Saving Rules, and (ii) High Potential events
Sustainable Growth	
Enhancement Milestones and Acceleration	The number of milestones completed ahead of time or on time, as a percentage of all milestones planned for delivery in the year
Effective Volumes	A measure of how much additional life our renewals activities add to our assets, which provides a medium-term view of sustainability. Calculated as a weighted aggregation of renewals volumes, where the weighting distinguishes between activity types and their different impacts on asset life
Environmental Sustainability Index	An index representing performance against four key environmental measures: (i) % of waste recycled, (ii) % of waste diverted from landfill, (iii) % reduction in carbon emission, and (iv) % reduction in non-traction energy usage
Customer and Communi	ties
Passenger Satisfaction (Wavelength)	The number of passengers surveyed who were satisfied with their overall journey.  Reported as an average score of passenger journey satisfaction on a scale of 1-10 (1 poor – 10 excellent)
Customer Contact Management (Complaints Handling)	An index calculated from (i) the number of complaints, (ii) the average age of open service requests, (iii) quality assurance score for complaints handling, and (iv) post contact customer survey score
Efficiency	
Financial Performance Measure (FPM)	An assessment of how Network Rail have performed compared to the financial targets set out in the CP6 Business Plan. The measure is an aggregation of the three individual FPM measures from prior years (P&L, Renewals and Enhancements)
People	
Employee Engagement	An index representing the proportion of employees surveyed who responded favourably to key questions on engagement.

## Metric definitions by region

	Eastern
Train Service Delivery	
On Time	The percentage of Recorded Station Stops called at on time (early or <1min late)
Freight Cancellations	The number of Network Rail and Other Operator caused cancellations, as a percentage of freight trains run. This measure is a subset of the regulatory Freight Delivery Metric (FDM)
Consistent Region Measure – Performance (CRMP)	The amount of delay that Network Rail has caused to passenger trains. Reported as number of delay minutes per 100 train kms that passenger trains have travelled.
Freight Delivery Metric (FDM)	The measurement of Network Rail's ability to deliver punctual trains for the freight sector.
Composite Reliability Index (CRI)	The Composite Reliability Index (CRI) is a measure of the overall improvement during the current Control Period in the condition and performance of our assets including track, signalling, points, electrical power, telecoms, buildings, structures and earthworks.
Service Affecting Failures (SAFs)	Service Affecting Failures (SAFs) measures the number of asset failures that impact on train performance attributed to Track, Points, Signalling & Electrical Power causes.
North and East Route Scorecard	A weighted aggregation of performance for agreed local measures relating to each route
East Coast Route Scorecard	A weighted aggregation of performance for agreed local measures relating to each route
East Midland Route Scorecard	A weighted aggregation of performance for agreed local measures relating to each route
Anglia Route Scorecard	A weighted aggregation of performance for agreed local measures relating to each route
Safety	
Workforce Fatalities and Weighted Injuries	An index representing workforce safety, using fatalities and non-fatal injuries per hour worked. A lower FWI represents better performance.
Personal Accountability for Safety	A measure of how much we are improving our culture and behaviours to help keep ourselves and our colleagues safe. The measure assesses the combined reduction in (i) Breaches in Life Saving Rules, and (ii) High Potential events
Passenger Safety – Train Accident Risk Reduction (TARR)	Measures achievement of the key milestones and metrics to reduce train accident risk. TARR is made up of milestone targets and volume targets, both of which have different achievement weightings
Sustainable Growth	
Environmental Sustainability Index	An index representing performance against four key environmental measures: (i) % of waste recycled, (ii) % of waste diverted from landfill, (iii) % reduction in carbon emission, and (iv) % reduction in non-traction energy usage.
Enhancement Milestones and Acceleration	An index measure consisting of (i) The percent of milestones completed ahead of time or on time, (ii) cost saved through application of SPEED principles, and (iii) time saved through application of SPEED principles
Effective Volumes	A measure of how much additional life our renewals activities add to our assets, which provides a medium-term view of sustainability. Calculated as a weighted aggregation of renewals volumes, where the weighting distinguishes between activity types and their different impacts on asset life.
Customer and Communitie	es
Customer Contact Management	An index calculated from (i) the number of complaints, (ii) the average age of open service requests, (iii) Quality assurance score and (iv) average Customer Survey score
Passenger Satisfaction (Wavelength)	The number of passengers surveyed who were satisfied with their overall journey, Reported as an average score of passenger journey satisfaction on a scale of 1-10 (1 poor – 10 excellent)

## OFFICIAL

Passenger Satisfaction (Managed Stations)	The CSAT (customer satisfaction) measure is the customer satisfaction score generated from a single question on ViewPoint QR codes and devices in managed stations.  The question is 'How would you rate your overall experience at this station?'
Efficiency	
Financial Performance Measure	An assessment of how Network Rail have performed compared to the financial targets set out in the CP6 Business Plan. The measure is an aggregation of the three individual FPM measures from prior years (P&L, Renewals and Enhancements)
People	
Employee Engagement	An index representing the proportion of employees surveyed who responded favourably to key questions on engagement

North West and Central	
Train Service Delivery	
On Time	The percentage of Recorded Station Stops called at on time (early or <1min late)
Freight Cancellations	The number of Network Rail and Other Operator caused cancellations, as a percentage of freight trains run. This measure is a subset of the regulatory Freight Delivery Metric (FDM)
Consistent Region Measure – Performance (CRMP)	The amount of delay that Network Rail has caused to passenger trains.  Reported as number of delay minutes per 100 train kms that passenger trains have travelled.
Freight Delivery Metric (FDM)	The measurement of Network Rail's ability to deliver punctual trains for the freight sector.
Composite Reliability Index (CRI)	The Composite Reliability Index (CRI) is a measure of the overall improvement during the current Control Period in the condition and performance of our assets including track, signalling, points, electrical power, telecoms, buildings, structures and earthworks.
Service Affecting Failures (SAFs)	Service Affecting Failures (SAFs) measures the number of asset failures that impact on train performance attributed to Track, Points, Signalling & Electrical Power causes.
Time to 3	The percentage of Recorded Station Stops arrived at early or less than three minutes after the scheduled time
Chiltern	A weighted aggregation of performance for agreed local measures relating to each customer
Merseyrail	A weighted aggregation of performance for agreed local measures relating to each customer
Trans Pennine Express	A weighted aggregation of performance for agreed local measures relating to each customer
Avanti	A weighted aggregation of performance for agreed local measures relating to each customer
West Midland Trains	A weighted aggregation of performance for agreed local measures relating to each customer
Northern	A weighted aggregation of performance for agreed local measures relating to each customer
XC delay minutes caused by incidents on Central Route	Total (primary + reactionary) delay to CrossCountry, resulting from Network Rail responsible incidents on Central route
Caledonian Sleeper RTA	The percentage of Caledonian Sleeper trains which arrive at their final destination within one minute of the advertised time having called at all booked stations. When a specially advertised revised timetable is in operation, at times of engineering work for example, they are measured against the revised times
Safety	
Workforce Fatalities and Weighted Injuries	An index representing workforce safety, using fatalities and non-fatal injuries per hour worked. A lower FWI represents better performance
Safety Conversations	A safety conversation is defined as a conversation led by managers to clarify and improve understanding of risks. Performance is calculated by the sum of conversations per employee.
Personal Accountability for Safety	A measure of how much we are improving our culture and behaviours to help keep ourselves and our colleagues safe. The measure assesses the combined reduction in (i) Breaches in Life Saving Rules, and (ii) High Potential events.
Passenger Safety – Train Accident Risk Reduction (TARR)	Measures achievement of the key milestones and metrics to reduce train accident risk.  TARR is made up of milestone targets and volume targets, both of which have different achievement weightings
Sustainable Growth	
Environmental Sustainability Index	An index representing performance against four key environmental measures: (i) % of waste recycled, (ii) % of waste diverted from landfill, (iii) % reduction in carbon emission, and (iv) % reduction in non-traction energy usage
Enhancement Milestones and Acceleration	An index measure consisting of (i) The percent of milestones completed ahead of time or on time, (ii) cost saved through application of SPEED principles, and (iii) time saved through application of SPEED principles
Effective Volumes	A measure of how much additional life our renewals activities add to our assets, which provides a medium-term view of sustainability. Calculated as a weighted aggregation of renewals volumes, where the weighting distinguishes between activity types and their different impacts on asset life

Customer and Communities	
Passenger Satisfaction (Managed Stations)	The CSAT (customer satisfaction) measure is the customer satisfaction score generated from a single question on ViewPoint QR codes and devices in managed stations. The question is 'How would you rate your overall experience at this station?'
Passenger Satisfaction (Wavelength)	The number of passengers surveyed who were satisfied with their overall journey.  Reported as an average score of passenger journey satisfaction on a scale of 1-10 (1 poor – 10 excellent)
Customer Contact Management (Complaints Handling)	An index calculated from (i) the number of complaints, (ii) the average age of open service requests, (iii) quality assurance score for complaints handling, and (iv) post contact customer survey score
Efficiency	
Financial Performance Measure	An assessment of how Network Rail have performed compared to the financial targets set out in the CP6 Business Plan. The measure is an aggregation of the three individual FPM measures from prior years (P&L, Renewals and Enhancements)
People	
Employee Engagement	An index representing the proportion of employees surveyed who responded favourably to key questions on engagement

Scotland		
Train Service Delivery	Train Service Delivery	
ScotRail PPM	The percentage of ScotRail trains which arrive at their final destination within five minutes of the advertised time having called at all booked stations. When a specially advertised revised timetable is in operation, at times of engineering work for example, we are measured against the revised times	
Freight Cancellations	The measurement of Network Rail's ability to deliver punctual trains for the freight sector.	
Freight Delivery Metric (FDM)	The measurement of Network Rail's ability to deliver punctual trains for the freight sector.	
Consistent Region Measure – Performance (CRM-P)	The amount of delay that Network Rail has caused to passenger trains.  Reported as number of delay minutes per 100 train kms that passenger trains have travelled.	
Service Affecting Failures (SAFs) excl. Telecoms	Measures the impact of asset failures on train performance attributed to Track, Points, Signalling & Electrification causes. Asset failures are significantly impacted by weather conditions, particularly hot summer weather. A lower figure represents a better performance against target	
Composite Reliability Index (CRI)	The Composite Reliability Index (CRI) is a measure of the overall improvement during the current Control Period in the condition and performance of our assets including track, signalling, points, electrical power, telecoms, buildings, structures and earthworks.	
ScotRail Journey Times	Average planned speed for 65 intercity services between the central belt and Aberdeen and Inverness	
Average Speed of Freight Services, % Improvement	Average speed improvement on baseline of freight services operating in Scotland (excl Network Rail engineering trains	
Caledonian Sleeper Right Time Arrivals	The percentage of Caledonian Sleeper trains which arrive at their final destination within one minute of the advertised time having called at all booked stations. When a specially advertised revised timetable is in operation, at times of engineering work for example, they are measured against the revised times	
Cross Country BPI Northbound (T-3)	The northbound BPI is an index showing the northbound lateness of arrival at destination vs. lateness of presentation at border, this provides an index showing how effective Scotland Region is at recovering late running services that are cross-border, and measures when Anglo-Scot operators lose time whilst they are entirely within Scotland Region's control area	
Cross Country BPI Southbound (T-3)	The southbound index is almost the same, but with lateness of departure vs lateness of presentation to border, again providing an index showing how effective Scotland Region is at bringing the Anglo-Scot service back into its booked path if late departing, or not gaining any additional lateness	
Transpennine Express BPI Northbound (T-3)	The northbound BPI is an index showing the northbound lateness of arrival at destination vs. lateness of presentation at border, this provides an index showing how effective Scotland Region is at recovering late running services that are cross-border, and measures when Anglo-Scot operators lose time whilst they are entirely within Scotland Region's control area	
Transpennine Express BPI Southbound (T-3)	The southbound index is almost the same, but with lateness of departure vs lateness of presentation to border, again providing an index showing how effective Scotland Region is at bringing the Anglo-Scot service back into its booked path if late departing, or not gaining any additional lateness	
LNER BPI Northbound (T-3)	The northbound BPI is an index showing the northbound lateness of arrival at destination vs. lateness of presentation at border, this provides an index showing how effective Scotland Region is at recovering late running services that are cross-border, and measures when Anglo-Scot operators lose time whilst they are entirely within Scotland Region's control area	
LNER BPI Southbound (T-3)	The southbound index is almost the same, but with lateness of departure vs lateness of presentation to border, again providing an index showing how effective Scotland Region is at bringing the Anglo-Scot service back into its booked path if late departing, or not gaining any additional lateness	
Avanti BPI Northbound (T-3)	The northbound BPI is an index showing the northbound lateness of arrival at destination vs. lateness of presentation at border, this provides an index showing how effective Scotland Region is at recovering late running services that are cross-border, and measures when Anglo-Scot operators lose time whilst they are entirely within Scotland Region's control area	
Avanti West Coast BPI Southbound (T-3)	The southbound index is almost the same, but with lateness of departure vs lateness of presentation to border, again providing an index showing how effective Scotland Region is at bringing the Anglo-Scot service back into its booked path if late departing, or not gaining any additional lateness	

Lumo BPI Northbound	The northbound BPI is an index showing the northbound lateness of arrival at destination vs. lateness of presentation at border, this provides an index showing how effective Scotland Region is at recovering late running services that are cross-border, and measures when Anglo-Scot operators lose time whilst they are entirely within Scotland Region's control area
Lumo BPI Southbound	The southbound index is almost the same, but with lateness of departure vs lateness of presentation to border, again providing an index showing how effective Scotland Region is at bringing the Anglo-Scot service back into its booked path if late departing, or not gaining any additional lateness
On Time	The percentage of Recorded Station Stops called at on time (early or <1min late)
PPM failures (extreme	The percentage of ScotRail trains which arrive at their final destination later than five
weather incidents)	minutes of the advertised time as a result of severe weather. When a specially advertised revised timetable is in operation, at times of engineering work for example, we are measured against the revised times
ScotRail Passenger Numbers (million passenger journeys)	Annual target for number of passenger journeys on ScotRail services (million passenger journeys)
Safety	
Passenger Safety – Train	Measures achievement of the key milestones and metrics to reduce train accident risk.
Accident Risk Reduction (TARR)	TARR is made up of milestone targets and volume targets, both of which have different achievement weightings
Personal Accountability for	A measure of how much we are improving our culture and behaviours to help keep
Safety	ourselves and our colleagues safe. The measure assesses the combined reduction in (i)
_	Breaches in Life Saving Rules, and (ii) High Potential events
Workforce Fatalities and	An index representing workforce safety, using fatalities and non-fatal injuries per hour
Weighted Injuries	worked. A lower FWI represents better performance
Top 10 Milestones to Reduce Level Crossing Risk	Measures our achievement of the Top-10 milestones to reduce level crossing risk
Sustainable Growth	
Enhancement Milestones and	The number of milestones completed ahead of time or on time, as a percentage of all
Acceleration	milestones planned for delivery in the year
Effective Volumes	A measure of how much additional life our renewals activities add to our assets, which
	provides a medium-term view of sustainability. Calculated as a weighted aggregation of
	renewals volumes, where the weighting distinguishes between activity types and their
Farriage and all Contains ability	different impacts on asset life  An index representing performance against four key environmental magsures: (i) % of
Environmental Sustainability Index	An index representing performance against four key environmental measures: (i) % of waste recycled, (ii) % of waste diverted from landfill, (iii) % reduction in carbon emission,
index	and (iv) % reduction in non-traction energy usage
Sustainability Strategy - % of	The number of milestones completed ahead of time or on time, as a percentage of all
milestones delivered	milestones planned for delivery in the year
Non-Traction Energy Usage,	Annual reduction in non-traction energy (electricity, non-traction from traction electricity
% Reduction	and natural gas - does not include road vehicle fleet fuel) consumption
Scottish Freight Growth on Baseline	Growth in thousand net tonne miles (kntm) (Scotland Route mileage only)
Customer and Comm	nunities
Dassonaer Satisfastia	The number of naccongare curvoyed who were entirfied with their averall investor. Described
Passenger Satisfaction (Wavelength)	The number of passengers surveyed who were satisfied with their overall journey. Reported as an average score of passenger journey satisfaction on a scale of 1-10 (1 poor – 10 excellent)
Customer Contact	An index calculated from (i) the number of complaints, (ii) the average age of open service
Management (Complaints	requests, (iii) quality assurance score for complaints handling, and (iv) post contact
Handling)	customer survey score
Passenger Satisfaction	The CSAT (customer satisfaction) measure is the customer satisfaction score generated
(Managed Stations)	from a single question on ViewPoint QR codes and devices in managed stations.  The question is 'How would you rate your overall experience at this station?'
Efficiency	
Financial Performance	An assessment of how Network Rail have performed compared to the financial targets set
Measure (FPM)	out in the CP6 Business Plan. The measure is an aggregation of the three individual FPM
casare (11 IVI)	measures from prior years (P&L, Renewals and Enhancements)
Funding Compliance (versus	Measure how well we use each year's available funding, against the 10 % Annual Rollover
10% Annual Rollover	Allowance
Allowance)	

People	
Employee Engagement	An index representing the proportion of employees surveyed who responded favourably to key questions on engagement

Southern	
Train Service Delivery	
On Time	The percentage of Recorded Station Stops called at on time (early or <1min late)
Freight Cancellations	The number of Network Rail and Other Operator caused cancellations, as a percentage of freight trains run. This measure is a subset of the regulatory Freight Delivery Metric (FDM)
Consistent Region Measure – Performance (CRM-P)	The amount of delay that Network Rail has caused to passenger trains.  Reported as number of delay minutes per 100 train kms that passenger trains have travelled.
Freight Delivery Metric (FDM)	The measurement of Network Rail's ability to deliver punctual trains for the freight sector.
Composite Reliability Index (CRI)	The Composite Reliability Index (CRI) is a measure of the overall improvement during the current Control Period in the condition and performance of our assets including track, signalling, points, electrical power, telecoms, buildings, structures and earthworks.
Kent	A weighted aggregation of performance for agreed local measures relating to each route
Sussex	A weighted aggregation of performance for agreed local measures relating to each route
Wessex	A weighted aggregation of performance for agreed local measures relating to each route
NRHS	A weighted aggregation of performance for agreed local measures relating to each route
Safety	
Passenger Safety – Train Accident Risk Reduction (TARR)	Measures achievement of the key milestones and metrics to reduce train accident risk.  TARR is made up of milestone targets and volume targets, both of which have different achievement weightings
Personal Accountability for Safety	A measure of how much we are improving our culture and behaviours to help keep ourselves and our colleagues safe. The measure assesses the combined reduction in (i) Breaches in Life Saving Rules, and (ii) High Potential events
Workforce Fatalities and Weighted Injuries	An index representing workforce safety, using fatalities and non-fatal injuries per hour worked. A lower FWI represents better performance
Sustainable Growth	
Enhancement Milestones and Acceleration	The number of milestones completed ahead of time or on time, as a percentage of all milestones planned for delivery in the year
Environmental Sustainability Index	An index representing performance against four key environmental measures: (i) % of waste recycled, (ii) % of waste diverted from landfill, (iii) % reduction in carbon emission, and (iv) % reduction in non-traction energy usage
Effective Volumes	A measure of how much additional life our renewals activities add to our assets, which provides a medium-term view of sustainability. Calculated as a weighted aggregation of renewals volumes, where the weighting distinguishes between activity types and their different impacts on asset life
Customer and Communi	ities
Stations	A weighted aggregation of performance for agreed local measures relating to each route
Customer Contact Management (Complaints Handling)	An index calculated from (i) the number of complaints, (ii) the average age of open service requests, (iii) quality assurance score for complaints handling, and (iv) post contact customer survey score
Passenger Satisfaction (Wavelength)	The number of passengers surveyed who were satisfied with their overall journey.  Reported as an average score of passenger journey satisfaction on a scale of 1-10 (1 poor – 10 excellent)

Efficiency	
Financial Performance Measure (FPM)	An assessment of how Network Rail have performed compared to the financial targets set out in the CP6 Business Plan. The measure is an aggregation of the three individual FPM measures from prior years (P&L, Renewals and Enhancements)
People	
Employee Engagement	An index representing the proportion of employees surveyed who responded favourably to key questions on engagement.
Uptake of wellbeing aspect of HSW medicals	This metric measures the percentage uptake of the optional wellbeing element of colleagues when attending medicals.

Wales and Western	
Train Service Delivery	
On Time Freight Cancellations	The percentage of Recorded Station Stops called at on time (early or <1min late)  The number of Network Rail and Other Operator caused cancellations, as a percentage
_	of freight trains run. This measure is a subset of the regulatory Freight Delivery Metric (FDM)
Consistent Region Measure – Performance (CRM-P)	Measures the annual minutes of Network Rail attributed delay to passenger trains from incidents occurring in the region normalised by the actual mileage travelled by passenger trains within that region
Freight Delivery Metric (FDM)	The measurement of Network Rail's ability to deliver punctual trains for the freight sector.
Composite Reliability Index (CRI)	The Composite Reliability Index (CRI) is a measure of the overall improvement during the current Control Period in the condition and performance of our assets including track, signalling, points, electrical power, telecoms, buildings, structures and earthworks.
Service Affecting Failures (SAFs) excl. Telecoms	Measures the impact of asset failures on train performance attributed to Track, Points, Signalling & Electrification causes. Asset failures are significantly impacted by weather conditions, particularly hot summer weather. A lower figure represents a better performance against target
Transport for Wales - Customer Scorecard	A weighted aggregation of performance for agreed local measures relating to each customer
Great Western Railway - Customer Scorecard	A weighted aggregation of performance for agreed local measures relating to each customer
Heathrow Express - Customer Scorecard	A weighted aggregation of performance for agreed local measures relating to each customer
MTR - Customer Scorecard	A weighted aggregation of performance for agreed local measures relating to each customer
Network Rail Wales Route delay minutes impacting Cross Country	The number of delay minutes on NR Wales route which impact Cross Country services.
Safety	
Passenger Safety – Train Accident Risk Reduction (TARR)	Measures achievement of the key milestones and metrics to reduce train accident risk.  TARR is made up of milestone targets and volume targets, both of which have different achievement weightings
Personal Accountability for Safety	A measure of how much we are improving our culture and behaviours to help keep ourselves and our colleagues safe. The measure assesses the combined reduction in (i) Breaches in Life Saving Rules, and (ii) High Potential events
Workforce Fatalities and Weighted Injuries	An index representing workforce safety, using fatalities and non-fatal injuries per hour worked. A lower FWI represents better performance
Sustainable Growth	
Enhancement Milestones and Acceleration	The number of milestones completed ahead of time or on time, as a percentage of all milestones planned for delivery in the year
Environmental Sustainability Index	An index representing performance against four key environmental measures: (i) % of waste recycled, (ii) % of waste diverted from landfill, (iii) % reduction in carbon emission, and (iv) % reduction in non-traction energy usage
Effective Volumes	A measure of how much additional life our renewals activities add to our assets, which provides a medium-term view of sustainability. Calculated as a weighted aggregation of renewals volumes, where the weighting distinguishes between activity types and their different impacts on asset life
Customer and Communi	ties
Passenger Satisfaction (Wavelength)	The number of passengers surveyed who were satisfied with their overall journey.  Reported as an average score of passenger journey satisfaction on a scale of 1-10 (1 poor – 10 excellent)
Customer Contact Management (Complaints Handling)	An index calculated from (i) the number of complaints, (ii) the average age of open service requests, (iii) quality assurance score for complaints handling, and (iv) post contact customer survey score
Passenger Satisfaction (Managed Stations)	The CSAT (customer satisfaction) measure is the customer satisfaction score generated from a single question on ViewPoint QR codes and devices in managed stations.  The question is 'How would you rate your overall experience at this station?'

Efficiency	
Financial Performance Measure (FPM)	An assessment of how Network Rail have performed compared to the financial targets set out in the CP6 Business Plan. The measure is an aggregation of the three individual FPM measures from prior years (P&L, Renewals and Enhancements)
People	
Employee Engagement	An index representing the proportion of employees surveyed who responded favourably to key questions on engagement