Capital and Risk Transformation (CART) Program

Execution plan summary view

July 15, 2015

Santander Holdings USA

Santander

The effort to build the foundational capabilities is being driven by nine workstreams focused on risk, finance, technology, and regulatory requirements

Project Leadership Group

- Accountability
- Program mgmt
- Governance
- Documentation

Executive Sponsor and Accountable Executive: Scott Powell
Project Lead: Chris Sulpizio

Deep-dive work-streams

	CCAR / DFAST	ELS	IHC
	Exec Sponsor: Scott Powell Project Lead: Jon Watson	Exec Sponsor: Jerry Plush Project Lead: Manuel Aya	Exec Sponsor: Jerry Plush / Brian Gunn Project Lead: Guilherme Bueno de Moraes
Risk Transformation	Exec Sponsor: Brian Gunn Accountable Exec: Edward Smith Project Lead: Matt Burns		
Model Development	Exec Sponsor: Brian Gunn Accountable Exec: Alex Silloway Project Lead: Greg Timmons		
Model Risk Management	Exec Sponsor: Brian Gunn Accountable Exec: Rafic Fahs Project Lead: Greg Timmons		
Operational Risk	Exec Sponsor: Brian Gunn Accountable Exec: Marcello Brutti Project Lead: Damian Kuczma		
Finance transformation	Exec Sponsor: Jerry Plush Accountable Exec: Jennifer Keegan Project Lead: Susana Ortega		
Data and IT transformation	Exec Sponsor: Julio Somoza Accountable Exec: Martin Hillion Project Lead: Carlos Manteiga Bautista		

We have identified the fundamental root causes of our 41 CCAR MRAs/MRIAs, which we have mapped to these workstreams

✓ More than 5 MR(I)As in the workstream affected by the category
✓ 1 to 5 MR(I)As in the workstream affected by the category

Category	Example root causes[1]	Number of MR(I)As affected by root causes in the category[2]	Workstreams						
			Risk Transformation	Model Development	Model Risk Management	Operational Risk	Finance Transformation	Data and Technology	CCAR / DFAST
Governance	▪ Lack of clear operating model between legal entities ▪ Lack of adequate governance for model approvals	39	✓	✓	✓	✓	✓		✓
Policies and standards	▪ Lack of uniform policies and standards across BHC ▪ Limited ability to enforce policies and standards at subsidiaries	25	✓	✓	✓		✓		✓
Business involvement and ownership of risk	▪ Low business involvement, ownership and accountability ▪ Ineffective or not well-defined roles in risk management (3 lines of defense) ▪ Lack of robust risk culture	18	✓	✓	✓	✓	✓	✓	✓
Stress-testing process and methodologies	▪ Inadequate standards for model development, validation and documentation ▪ Inappropriate design of stress-testing process and controls ▪ Lack of management oversight in capital planning process	13		✓	✓		✓		✓
Data and technology	▪ Lack of adequate internal data due to legal entity structure and historic issues around data quality and availability ▪ Absence of data aggregation capabilities ▪ Absence of a 'golden source' of data	11		✓	✓			✓	
Talent and resources	▪ Lack of resources to validate all models ▪ Lack of robust project management capabilities ▪ Lack of appropriate skill sets/training	7	✓	✓	✓				✓
Implementation / execution	▪ Incentives not aligned with objectives ▪ Lack of realistic plans ▪ Inability to execute against plans and adequately track progress against targets	7				✓		✓	✓
Controls	▪ Lack of appropriate model controls ▪ Lack of internal controls on aggregation ▪ Lack of appropriate audit strategy and process ▪ Lack of tools for model inventory management and tracking of validation findings	6		✓	✓	✓			✓
Board engagement	▪ Lack of board engagement	3					✓		✓

1 'Root cause' examples should be read in the context of the corresponding MRA/MRIA

2 Total 41 MR(I)As; several MRAs/MRIAs affected by multiple root causes

Five cross-cutting themes have emerged from this root cause analysis of the MRIAs / MRAs

Category	Example root causes[1]	Number of MR(I)As affected by root causes in the category[2]
Governance	▪ Lack of clear operating model between legal entities ▪ Lack of adequate governance for model approvals	39
Policies and standards	▪ Lack of uniform policies and standards across BHC ▪ Limited ability to enforce policies and standards at subsidiaries	25
Business involvement and ownership of risk	▪ Low business involvement, ownership and accountability ▪ Ineffective or not well-defined roles in risk management (3 lines of defense) ▪ Lack of robust risk culture	18
Stress-testing process and methodologies	▪ Inadequate standards for model development, validation and documentation ▪ Inappropriate design of stress-testing process and controls ▪ Lack of management oversight in capital planning process	13
Data and technology	▪ Lack of adequate internal data due to legal entity structure and historic issues around data quality and availability ▪ Absence of data aggregation capabilities ▪ Absence of a 'golden source' of data	11
Talent and resources	▪ Lack of resources to validate all models ▪ Lack of robust project management capabilities ▪ Lack of appropriate skill sets/training	7
Implementation / execution	▪ Incentives not aligned with objectives ▪ Lack of realistic plans ▪ Inability to execute against plans and adequately track progress against targets	7
Controls	▪ Lack of appropriate model controls ▪ Lack of internal controls on aggregation ▪ Lack of appropriate audit strategy and process ▪ Lack of tools for model inventory management and tracking of validation findings	6
Board engagement	▪ Lack of board engagement	3

Underlying cross-cutting themes emerging from root causes

- **Enhanced Governance and Oversight across SHUSA**
- **Foundational Risk Management and Ownership of Risk across Three Lines of Defense**
- **Strengthened Organizational Capabilities and Resources**
- **Effectiveness and Integrity of Processes and Controls**
- **Improved Data Quality and Robust Technology Applications**

1 'Root cause' example summary should be read in the context of the corresponding MRA/MRIA

2 Total 41 MR(I)As; several MRAs/MRIAs affected by multiple root causes

We have identified a set of core priorities for SHUSA in year one

Governance, reporting and functional reviews	▪ **Establish Comprehensive Governance and Oversight framework** that encompasses foundational elements like organization, roles, committees, reporting lines, policy framework, decision rights, delegation of authority, rollout of the 3LODs and Risk ID ▪ Create standardized monthly **Risk and Finance reports** by lines of businesses to ensure adequate transparency and oversight across the functions and businesses ▪ Initiate standardized **Risk and Finance reviews** on a monthly basis
Risk models across wholesale and retail	▪ Rollout strong origination practices in **wholesale banking that leverages robust Risk Rating models that are being developed** for CRE and C&I (starting with CRE rollout in year 1 ▪ Build **Auto and Unsecured loss models** (80% of losses) and **Auto PPNR models**
Core Data and IT	▪ **Build foundational Data Management capabilities** – Begin rollout of foundational data governance, data controls, data quality and the supporting IT infrastructure ▪ **Ensure Data Quality and Delivery** – Provide development data-sets to support prioritized modeling activities, forecasting activities and regulatory reporting ▪ **Build technology capabilities** to support liquidity risk management, Regulatory Reporting, and modeling

These core priorities will begin to address the themes and underlying root causes, and have been outlined in the plans that follow

Core priorities for SHUSA in year 1

Cross-cutting themes	Comprehensive Governance and Oversight Framework	Risk and Finance Reports	Risk and Finance Reviews	Wholesale Rating	Auto & Unsecured Loss Models (SCUSA)	Foundational Data Management Capabilities	Data Quality & Delivery for Modeling Forecasting, Reporting	IT Capabilities for Liquidity
Enhanced Governance and Oversight across SHUSA	✓	✓	✓					
Foundational Risk Management and Ownership of Risk across the 3 LoDs	✓	✓	✓	✓	✓	✓	✓	✓
Strengthened Organizational Capabilities and Resources	✓	✓	✓					
Effectiveness and Integrity of Processes and Controls	✓	✓	✓	✓	✓	✓	✓	✓
Improved Data Quality and Robust Technology Applications		✓	✓			✓	✓	✓

Summary plans

Risk Transformation

Model Development

Model Risk Management

Operational Risk

Finance Transformation

Data and IT

CCAR / DFAST

IHC

ELS (included in Finance Transformation)

Risk Transformation - Summary

Summary of FRB feedback

- New governance guidelines did not provide the needed clarity on how the company should conduct its affairs
- The board reporting framework is inadequate; materials presented at board and senior management committees are unclear or inconsistent
- Insufficient definition of a consolidated risk appetite statement and limit structure including level and types of risk the holding company is willing to assume from subsidiaries
- Risk identification process does not identify nor appropriately account for all risks when assessing capital needs

Sub-workstreams in Risk Transformation

A. **Risk governance and organization:** organizational structure of risk management to enforce the risk appetite statement, and oversight by the SHUSA Boards
B. **Risk appetite:** establish and communicate Board approved risk appetite
C. **Risk ID & measurement:** tools and processes to quantify the enterprise's risks
D. **Risk management processes:** measurement and management of the enterprise's risks and application to strategic business decisions
E. **Risk monitoring / Risk reporting:** summarize enterprise's key risks for internal and external stakeholders

Potential execution risks

- Data availability and data quality across enterprise
- Management of dependencies and related activities spanning multiple Risk workstreams (e.g. RAS, target operating model, reporting framework and templates)
- Execution risk due to effective transfer of knowledge and capabilities from external resources / consultants
- Staffing and skills requirements of the Target Operating Model will be determined for all three lines of defense during the implementation planning process; significant gaps may affect deliverables in years 2-3

Key deliverables	Due by
Implement routine Risk-Business reviews with reports	07/31/15
Define target exec. mgmt. risk reporting landscape	09/07/15
Implement near-term changes to Risk org / reporting lines	10/02/15
Draft SHUSA's Governance and Oversight Framework Document	11/30/15
Develop SHUSA, SBNA, and SCUSA RAS, and obtain approvals	12/31/15
Enhanced top of the house risk policies and 3 LOD articulation	01/08/16
Initial embedding of top-level RAS in material SHUSA processes and plan further embedding across the enterprise	01/12/16
Develop and execute Material Risk Program	01/15/16
Risk Operating Model design and implementation planning	04/01/16
Review foundational Risk ID processes / build multiyear objectives	05/27/16
Rollout Commercial Risk Ratings	07/29/16
Define multiyear plan to achieve a sound target state risk culture	09/30/16

Key dependencies

- **Model Development:** Development of commercial ratings models
- **Model Risk Management:** Validation of commercial ratings models
- **Finance:**
  - Liquidity Data Mart and tools to support analytics process by second line of defense liquidity risk management
  - Implementation of the TOM across IHC entities to support LRM Framework implementation including stress testing scenarios and LST calculations (stressed inflows/outflows >90 days, non-maturity deposits)
- **Data & IT**:
  - IT development to support Commercial Risk Rating implementation / embedding in relevant processes
  - IT development for RAS, Risk ID and Risk reporting (pending planned definition of business/data requirements)
- **First Line:** Input to Material Risk Program (business line / segment Material Risk Inventories)

Risk Transformation project plan (1/4)

- • Deliverables
- – Milestones under the deliverable
- ✓ Completed

Sub-workstream	Deliverables / milestones	Start	Finish	Owner
Risk Governance & Organization	• Draft overarching Governance and Oversight Framework Document for SHUSA[1]; syndicate and finalize	07/15/15	11/30/15	Gunn
	– Establish core principles for governance and oversight of SHUSA and its subsidiaries, including role of and interactions with the holding company	07/15/15	07/31/15	
	– Define target state committee structure including Board and Management committees	07/15/15	8/15/15	
	– Articulate committee compositions, roles, decision rights, delegation of authority and distribution of responsibilities between the Group, SHUSA and its subsidiaries	08/01/15	09/30/15	
	– Document the overarching organization structure of SHUSA and its subsidiaries including reporting lines	08/01/15	09/30/15	
	– Develop policy framework, establish overall policies including guidelines for approval of policies	07/15/15	09/30/15	
	– Create overarching reporting framework for the Board and Management for SHUSA and its subsidiaries	10/01/15	10/31/15	
	– Syndicate Governance and Oversight Framework document with key stakeholders across SHUSA, the legal entities and the Corporation, incorporate refinements and finalize	11/01/15	11/30/15	
	• Conduct gap analysis against the overarching Governance and Oversight Framework document, identify gaps and develop multi-year execution plans	12/01/15	01/31/16	Gunn
	– Conduct gap analysis against the target state governance and committee structure, organization and roles, decision rights, delegation of responsibilities, policy framework and reporting	12/01/15	01/15/16	
	– Establish comprehensive implementation plans to address these gaps over a multi-year period	01/3/16	01/31/16	
	• Execute against multi-year plan for Risk Transformation	02/01/16	Ongoing	Gunn
	• Implement routine Risk-Business reviews with standardized materials and reports	07/13/15	07/31/15	Gunn
	• Enhance top of the house risk policies with clear articulation of roles and responsibilities across the Three Lines of Defense (3 LOD)	07/13/15	01/08/16	Gunn
	• Design Operating Model across Risk types aligned with principles of 3 LOD, develop rollout plans and implement	08/03/15	04/01/16	Gunn
	– Identify and implement near term changes to the risk organization and reporting lines across SHUSA	08/03/15	10/02/15	
	– Determine the prioritization of detailed operating model design and rollout by risk type / function	08/03/15	10/02/15	
	– Design detailed operating model and implementation plans for Risk Type / Function A & B (Most likely Credit, ERM + RAS + Strategic)	08/31/15	11/06/15	
	• Define detailed organizational structure and assess talent needs including target headcounts and skill sets	08/31/15	10/02/15	
	• Develop rollout plan	10/05/15	11/06/15	
	– Implement the redesigned Operating Model for Risk Type / Function A & B	11/09/15	11/09/16[1]	
	– Design detailed operating model and implementation plans for Risk Type / Function C & D (Most likely Market & Liquidity, Compliance)	11/16/15	01/22/16	
	– Implement the redesigned Operating Model for Risk Type / Function C & D	01/25/16	01/25/17[1]	
	– Design detailed operating model and implementation plans for Risk Type / Function E & F (Most likely Risk Management Information, Capital Risk)	02/01/16	04/01/16	
	– Implement the redesigned Operating Model for Risk Type / Function E & F	04/04/16	04/04/17[1]	
	• Rollout communication and training for organizational changes related to 3 LOD	01/25/16	Ongoing	Gunn

1 Implementation finish date may be refined during the design phase

Risk Transformation project plan (2/4)

- • Deliverables
- – Milestones under the deliverable
- ✓ Completed

Sub-workstream	Deliverables / milestones	Start	Finish	Owner
Risk Governance & Organization	• Articulate desired risk culture by setting the "Tone from the Top" and conducting a risk culture assessment	08/03/15	10/02/15	Gunn
	• Define multiyear plan to achieve a sound target state risk culture	07/01/16	09/30/16	Gunn
	• Assess existing Risk Management Performance Scorecards and identify gaps	06/15/16	12/18/15	Gunn/ Briongos
	• Rollout systematic performance assessments and risk-based compensation structures	04/01/16	01/02/17	Gunn/ Briongos
	• Diagnose retention challenge and design recruitment and retention mechanisms	07/01/16	04/04/17	Gunn/ Briongos
Risk Appetite Statement (RAS)	• Develop interim RAS for SBNA and SCUSA, and begin ongoing monitoring	06/08/15	09/30/15	Smith/ Parrish
	• Develop SHUSA, SBNA, and SCUSA RAS, and obtain approvals	06/08/15	12/31/15	Smith/ Parrish
	– Develop SHUSA-level RAS (top-down approach)	06/08/15	08/28/15	
	– Develop SBNA- and SCUSA-level RAS (bottom-up approach), ensuring alignment to SHUSA RAS	06/08/15	11/20/15	
	– Establish related processes and documentation for ongoing management of RAS (e.g. breach escalation and remediation process – including consequences)	07/06/15	11/20/15	
	– Secure Board approval of SHUSA, SBNA, and SCUSA RAS	08/31/15	12/31/15	
	• Communicate Board-approved SHUSA, SBNA, and SCUSA RAS to enterprise	12/01/15	02/24/16	Smith / Parrish
	• Design RAS for remaining subsidiaries (NY, Puerto Rico, Miami) and obtain approvals	02/01/16	06/30/16	Smith / Parrish
	– NY RAS design and approval	02/01/16	06/30/16	
	– Puerto Rico RAS design and approval	02/01/16	06/30/16	
	– Miami RAS design and approval	02/01/16	06/30/16	
	• Initiate embedding of RAS in material SHUSA processes and plan for embedding RAS across the enterprise	11/02/15	01/12/16	Smith / Parrish
	– Identify key processes (e.g. strategic planning, capital planning) and update process maps with explicit RAS links	11/02/15	11/27/15	
	– Initiate implementation of RAS in all material processes	11/30/15	01/12/16	
	• Continue to cascade the risk appetite statement for the remainder of subsidiaries and business units and ensure alignment with overall SHUSA risk appetite statement	01/01/16	06/30/16	Smith / Parrish
	• Cascade the embedding of the risk appetite statement for key processes across the organization	01/01/16	06/30/16	Smith / Parrish
	• Continue to communicate risk appetite statement throughout the enterprise, including training in the new escalation and remediation process	04/01/16	09/30/16	Smith / Parrish
	• Periodically enhance risk appetite statement based on the latest results of material risk identification and improved risk measurement across the enterprise; including incorporation of risk-based capital metrics	10/03/16	06/30/17	Smith / Parrish
Risk ID & Measurement	• Design and execute the Material Risk Program across SHUSA (leveraging existing data and technology)	02/02/15	01/15/16	Allaire
	– Design material risk program and obtain approvals (incl. risk taxonomy, tools, templates, guidance)	02/02/15	05/01/15 ✓	
	– Create risk inventory for the Subsidiaries / Business Entities and hold workshops for aggregation	05/28/15	10/02/15	
	• Compile Business Line / Segment Material Risk Inventory	05/28/15	07/31/15	
	• Hold Subsidiary / Business Entity Aggregation Workshops (include 2nd LOD challenge) and Governance (Material Risk Inventory Reviews / Approvals)	08/03/15	10/02/15	

Risk Transformation project plan (3/4)

• Deliverables
– Milestones under the deliverable
✓ Completed

Sub-workstream	Deliverables / milestones	Start	Finish	Owner
Risk ID & Measurement	– Create risk inventory for the SHUSA, hold workshops for aggregation	10/05/15	01/15/16	
	• Preparation for Aggregation to create SHUSA Material Risk Inventory	10/05/15	10/19/15	
	• Hold SHUSA Aggregation Workshops (include 2nd LOD challenge)	10/12/15	10/26/15	
	• Execute on SHUSA Top Down Aggregation (1st and 2nd LOD executive challenge)	10/26/15	11/09/15	
	• Obtain approvals for Material Risks of SHUSA (final aggregation, Board and Management review and challenge)	11/09/15	12/04/15	
	• Draft Risk ID and Assessment Policy and obtain approvals	10/26/15	01/15/16	
	• Establish clear linkage of MRP outputs to capital planning scenario design process	10/12/15	12/04/15	
	• Review foundational Risk ID processes including data and technology supporting the Material Risk Program and build multi-year enhancement objectives	01/18/16	05/27/16	Smith
	– Assess foundational Risk ID processes and ensure complete foundational risk inventory is in place	01/18/16	02/26/16	
	– Review each foundational Risk ID process, identify deficiencies in data, technology and processes, and use gap analyses to determine how to optimize	02/29/16	05/13/16	
	– Develop remediation plans for foundational Risk ID processes	04/27/16	05/27/16	
	• Execute remediation plans for foundational Risk ID processes, including requirements definition, development and implementation of planned data and technology solutions to support risk identification (e.g. automated interface for risk inventory template, database for foundational inputs and data sources for risk identification, etc.)	05/30/16	05/31/17[1]	Smith
	• Updated SHUSA Risk taxonomy for Material Risk Program	11/30/15	01/15/16	Allaire
	• Updated material risk inventory template and guidance for Material Risk Program	01/18/16	02/26/16	Allaire
	• Develop training materials, policies and procedures based on updated Material Risk Program process	02/29/16	06/17/16	Allaire
Risk Management Processes	• Analyze and remediate gaps in liquidity risk management ("LRM") against IHC requirements	11/03/14	11/30/15	Aya
	• Design Liquidity Stress Test Challenge Process Framework and get approvals	06/01/15	12/31/15	Aya / Lasso
	• Perform high-level review and revision of wholesale credit process limits and controls and delegation of authority at SCUSA and SBNA	02/01/16	03/31/16	Hennessy / Cuervo
	• Rollout Commercial Risk Ratings	05/04/15	07/29/16	Spector
	– Establish governance and oversight on commercial risk ratings governance	06/01/15	07/31/15	
	– Rollout redesigned CRE rating models	06/29/15	05/27/16	
	• CRE model development and validation (refer to Model Dev. / Model Risk workstreams[2])	06/29/15	11/18/15	
	• CRE UAT / pilot testing	02/01/16	04/01/16	
	• CRE end-user training	02/01/16	05/27/16	
	• CRE initial model implementation / rollout	04/04/16	05/06/16	

1 Implementation finish date may be refined during the design phase
2 Refer to Model Development and Model Risk Management workstreams for relevant dates on development and validation

Risk Transformation project plan (4/4)

• Deliverables
– Milestones under the deliverable
✓ Completed

Sub-workstream	Deliverables / milestones	Start	Finish	Owner
Risk Management Processes	– Rollout redesigned C&I rating models	06/22/15	07/29/16	
	• C&I model development and validation (refer to Model Dev. / Model Risk workstreams[1])	06/22/15	01/14/16	
	• C&I UAT / pilot testing	04/04/16	06/03/16	
	• C&I end-user training	04/04/16	07/29/16	
	• C&I initial model implementation / rollout	06/06/16	07/01/16	
	– Create requirement definitions for long-term technology solution for CRE and C&I model implementation	05/04/15	04/15/16	
	• Conduct gap analyses across risk types focusing on methodology, tools, processes, and expectations as defined by the operating model and benchmark to industry practice	07/01/16	09/30/16	Hennessy / Smith
	• Create remediation plans to address gaps and initiate remediation actions	08/03/16	12/04/16	Hennessy / Smith
Risk Monitoring / Risk Reporting	• Assess current reporting landscape and make quick-win enhancements to priority reports (Board and Level 1 Risk Committees) and reporting protocols	06/15/15	08/17/15	Coutinho
	– Document detailed business and data requirements for SHUSA Monthly Risk Report and deliver to T&O for BCBS 239 compliance	06/15/15	08/17/15	
	• Define target exec. mgmt. risk reporting landscape and scope of remediation (linked to committee structure)	07/27/15	09/07/15	Coutinho
	• Identify risk aggregation needs and cultivate dedicated resources to manage reporting	08/31/15	01/29/16	Coutinho
	• Develop and implement Wave 1 of exec. mgmt. reporting enhancements	08/31/15	11/09/15	Coutinho
	– Develop template reports for Wave 1 and socialize	08/31/15	09/25/15	
	– Roll-out of Wave 1 reports (similar process for all waves)	09/28/15	11/09/15	
	• Review business/data requirements for interim and target state of Wave 1 reports and update as needed	09/28/15	10/23/15	
	• Identify and document data gaps and develop remediation plans	09/28/15	11/09/15	
	• Pilot reports using available data (manual where necessary)	09/28/15	10/09/15	
	• Collect feedback from key stakeholders and refine reports	10/26/15	11/06/15	
	• Implement refined reports in-production	11/06/15	11/09/15	
	• Develop and implement Wave 2 of exec. mgmt. reporting enhancements	10/05/15	12/28/15	Coutinho
	– Development of template reports and socialization of Wave 2 (based on materiality)	10/05/15	10/30/15	
	– Roll-out of Wave 2 reports (similar process as Wave 1)	11/02/15	12/28/15	
	• Develop and implement Wave 3 of exec. mgmt. reporting enhancements	12/28/15	04/01/16	Coutinho
	– Development of template reports and socialization of Wave 3 (Remaining Entities)	12/28/15	01/29/16	
	– Roll- out of Wave 3 reports (similar process as Wave 1)	02/01/16	04/01/16	
	• Execute on Remediation Plans and Roll-out Enhanced Reports	04/01/16	01/02/17	Coutinho
	• Develop and launch additional waves of reporting enhancements as needed	04/01/16	09/30/16	Coutinho
	• Refine data requirements/resources to enhance quality of reports	04/01/16	09/30/16	Coutinho
	• Develop quality assurance plans and controls for newly enhanced reports	04/01/16	09/30/16	Coutinho
	• Assess resource needs and implement additional refinements to monitoring requirements	04/01/16	03/31/17	Coutinho

1 Refer to Model Development and Model Risk Management workstreams for relevant dates on development and validation

Summary plans

Risk Transformation

Model Development

Model Risk Management

Operational Risk

Finance Transformation

Data and IT

CCAR / DFAST

IHC

ELS (included in Finance Transformation)

Model Development - Summary

Summary of FRB feedback

- Redevelop wholesale credit risk measurement
- Enhance loss forecasting and PPNR framework
- Identify internal data limitations and use external data when necessary
- Follow model development standards that aligns with SR11-7, including (data source integrity; documentation; sensitivity analysis; testing and implementation; operational controls; performance monitoring; third-party modeling)
- Implement a net interest income projection process to meet supervisory expectations of the ROPE paper sensitivity analysis

Sub-workstreams in Model Development

A. **Organization:** Define a Model Development organizational structure
B. **Hiring Plan:** Develop a plan to identify and attract to ensure the success of the model development teams
C. **Standards:** Promulgate model development standards for all entities
D. **Model Reference Library:** Establish a reference library of modeling procedures, standardized reporting templates and other support materials
E. **Model Landscape:** Develop multi-year plan to address development needs
F. **Monitoring:** Ensure appropriate model performance monitoring reports are generated and reviewed regularly and are informing remediation activities
G. **Qualification:** Encourage professional development and ensure mathematical models are developed by qualified personnel

Potential key risks

- Data availability and data quality across enterprise
- Tight timeline to complete talent sourcing for the Model Development organization

Key deliverables	Due by
Develop CCAR model development prioritization process	05/22/15
Develop and approve organizational chart	07/31/15
Identify hiring plan gaps and establish hiring standards	07/31/15
Transition existing staff to new organizational structure	08/28/15
Develop and send to validation CCAR 2016 models based on approved Model Landscape & Roadmap	10/30/15
Develop SHUSA Enterprise Model Develop Standards (incl. CCAR)	12/16/15
Approve performance monitoring remediation action plans (Tier 1)	12/30/15
Execute 90% of hiring plan	06/30/16
Populate the Model Reference Library	07/01/16
Develop and approve Professional Qualification Standards Handbook	10/03/16

Key dependencies

- **Risk Transformation:**
  - Risk appetite principles
  - Operating model
  - Individual risk reporting framework and templates
- **Model Risk Management:**
  - Review of Model Development policies, procedures, standards
  - MRM Framework and Policies
  - CCAR Model Validation results
  - Legacy Models Risk and Gap assessments
- **Data & IT:**
  - Data for modelling, enhanced through data quality program
  - Platform for Model Reference Library
  - Data Architecture for CCAR 2017
- **CCAR:** Macroeconomic variable forecasts
- **HR:**
  - Approved staffing/hiring strategy
  - Fulfilment of staffing needs
- **Model User**: Gather business requirements and feedback from SBNA and SCUSA CFO, CRO and Line of Businesses

Model Development project plan (1/4)

• Deliverables
– Milestones under the deliverable
✓ Completed

Sub-workstream	Deliverables / milestones	Start	Finish		Owner
SHUSA Model Development organization	• Specify organizational vision and objectives	05/22/15	06/26/15	✓	Silloway
	• Develop and approve organizational chart	06/05/15	07/31/15		Silloway
	– Define individual and team roles	06/05/15	07/23/15		
	– Articulate reporting lines	06/05/15	07/23/15		
	– Submit draft organizational chart	07/23/15	07/24/15		
	– Review, critique, and revise	07/24/15	07/30/15		
	– Approve organizational chart	07/30/15	07/31/15		
	• Communicate organizational chart (at SHUSA and entities)	08/03/15	08/07/15		Silloway
	• Receive staffing assessment output from Risk Transformation	02/29/16	02/29/16		Smith
	• Review, adjust and communicate org chart if needed	02/29/16	04/01/16		Silloway
Hiring plan	• Develop job descriptions for SHUSA model development organization	06/26/15	07/31/15		Silloway
	• Identify hiring plan gaps and establish hiring standards	06/26/15	07/31/15		Silloway
	– Determine talents and skill sets of existing staff	06/26/15	07/31/15		
	– Conduct gap analysis of current staffing and hiring plan	06/26/15	07/31/15		
	– Identify "high performance" values and behaviors	07/06/15	07/31/15		
	• Transition existing staff to new organizational structure	07/20/15	08/28/15		Silloway
	• Engage external recruiting resources (if needed)	06/29/15	08/28/15		Ciano
	• Train recruiting teams on the hiring standards	06/29/15	08/28/15		Silloway/Ciano
	• Post job openings	07/23/15	08/28/15		Ciano
	• Onboarding procedure	07/20/15	08/18/15		Silloway
	• 90% of Hiring Plan executed	07/20/15	06/30/16		Silloway
SHUSA Enterprise Model Development Standards	• SHUSA Enterprise Model Development Standards	07/06/15	12/16/15		Silloway
	– Inventory existing standards, procedures, guidelines, etc.	07/06/15	08/14/15		
	– Identify best practice (data source selection, data integrity, and data treatment; estimation techniques; documentation criteria; sensitivity analysis; testing and implementation; operational controls; performance monitoring; model change management; third-party modeling products and services; review and challenge)	08/17/15	10/09/15		
	– Submit draft SHUSA Enterprise Model Development Standards	10/12/15	10/12/15		
	– Review and critique against model risk management standards	10/13/15	11/09/15		
	– Approve SHUSA Enterprise Model Development Standards	11/10/15	11/10/15		
	– Ratify SHUSA Enterprise Model Development Standards	11/11/15	11/17/15		
	– Conduct training	11/11/15	12/16/15		

Model Development project plan (2/4)

• **Deliverables**
– **Milestones under the deliverable**
✓ **Completed**

Sub-workstream	Deliverables / milestones	Start	Finish	Owner
SHUSA Enterprise Model Development Standards	• SHUSA Enterprise CCAR Model Development Standards	07/06/15	12/16/15	Silloway
	– Inventory existing standards, procedures, guidelines, etc.	07/06/15	08/14/15	
	– Identify best practice (data source selection, data integrity, and data treatment; estimation techniques; documentation criteria; sensitivity analysis; testing and implementation; operational controls; performance monitoring; model change management; third-party modeling products and services; review and challenge)	08/17/15	10/09/15	
	– Submit draft SHUSA Enterprise CCAR Model Development Standards	10/12/15	10/12/15	
	– Review and critique against model risk management standards	10/13/15	11/09/15	
	– Approve SHUSA Enterprise CCAR Model Development Standards	11/10/15	11/10/15	
	– Ratify SHUSA Enterprise CCAR Model Development Standards	11/11/15	11/17/15	
	– Conduct training	11/11/15	12/16/15	
Model reference library	• Examine and determine the platform system for Model Reference Library	03/14/16	04/11/16	Silloway
	• Implement the platform system	04/12/16	06/06/16	Silloway
	– Establish operational controls (in writing)	04/12/16	04/28/16	
	– Code the platform system (as necessary)	04/12/16	05/05/16	
	– Test the platform system	05/06/16	05/19/16	
	– Review test results	05/20/16	06/03/16	
	– Approve the platform system for use	06/06/16	06/06/16	
	• Establish procedures	04/12/16	05/12/16	Silloway
	• Populate the Model Reference Library	05/13/16	07/01/16	Silloway
	– Upload the CART Model Development project charter	05/13/16	07/01/16	
	– Upload the CART Model Development project plan	05/13/16	07/01/16	
	– Upload the SHUSA Enterprise Model Development Standards	05/13/16	07/01/16	
	– Upload the SHUSA Enterprise CCAR Model Development Standards	05/13/16	07/01/16	
	– Upload a "Gold Standard" Model Development document	05/13/16	07/01/16	
	• Commence periodic User Group meetings	07/04/16	07/04/16	Silloway

Model Development project plan (3/4)

- **Deliverables**
- – **Milestones under the deliverable**
- ✓ **Completed**

Sub-workstream	Deliverables / milestones	Start	Finish		Owner
CCAR landscape	• Develop and approve CCAR Prioritization process for model development	05/04/15	05/22/15	✓	Silloway
	• Review Governance Charter for CCAR Working Groups	06/29/15	07/30/15		Silloway
	• Approve Landscape & Roadmap	05/04/15	06/25/15	✓	Silloway
	• Identify Roadmap for non-modeled solutions	05/04/15	08/04/15		Silloway
	• CRE Risk Rating	06/29/15	08/17/15		Saxena
	• C&I Risk Rating	06/22/15	10/13/15		Saxena
	• Unsecured Loss Estimation (PD and LGD)	06/09/15	10/15/15		Yang / Pruneda
	• Auto Lending Loss Estimation (PD and LGD)	06/09/15	10/30/15		Yang / Pruneda
	• Auto Lending PPNR (Origination and Pricing)	06/15/15	10/30/15		Iyer
	• Deposit PPNR (Balance and Pricing)	11/13/15	02/29/16		Iyer
	• CRE Loss Estimation (PD, LGD and EAD)	04/06/17	09/29/17		Hoffman/Pruneda
	• CRE PPNR (Origination and Pricing)	12/07/15	04/29/16		Iyer
	• CRE PPNR (Utilization and Prepay)	12/07/15	06/30/16		Iyer
	• C&I Loss Estimation (PD, LGD and EAD)	04/06/17	09/29/17		Hoffman/Pruneda
	• C&I PPNR (Orig, Utiliz, Prepay and Pricing)	01/04/16	07/28/16		Iyer
	• OTTI (new vendor)	03/01/16	07/29/16		Hoffman
	• Residential RE Loss Estimation (PD and LGD)	05/16/16	09/22/16		Hoffman/Pruneda
	• Residential RE PPNR (Orig./ Utiliz. and Pricing)	05/16/16	09/30/16		Iyer/Pruneda
	• Residential RE Loss Est (HELOAN PD and LGD)	01/20/17	05/30/17		Hoffman/Pruneda
	• Residential RE PPNR (HELOAN Orig and Pricing)	01/20/17	06/06/17		Iyer / Pruneda

For each model/model type, the start and end dates contemplates the following milestones:

- Establish project management
- Host kick-off meeting
- Obtain business requirements
- Create development dataset
- Conduct segmentation analysis
  Within each model, the segmentation exercise will determine the prioritization of certain segments in development for CCAR 16 vs. 2017 model estimation
- Model estimation
- Model testing (incl. back testing, sensitivity analysis, etc.)
- Model documentation
- Operational controls
- Model performance monitoring
- Submit model to MRMG for validation

The following milestones are not included in the start and end dates, and will be added to the project plan once the Segmentation Scheme is approved:

- Post-validation review and remediation plan
- UAT - Review model output with model owner
- Implementation - Produce Forecast
- Implementation - Implement connectivity with reporting tool(s) / SAS Engine

Model Development project plan (4/4)

• **Deliverables**
– **Milestones under the deliverable**
✓ **Completed**

Sub-workstream	Deliverables / milestones	Start	Finish	Owner
Model Performance Monitoring	• Confirm Model Inventory	06/03/15	08/31/15	Strobel
	• Assign risk rating tiers to all models	06/03/15	09/04/15	Fahs
	• Model Performance Monitoring Procedure	08/10/15	09/04/15	Silloway
	• Tier 1 Model Performance Monitoring	09/07/15	12/30/15	Silloway
	– Conduct performance monitoring gap analysis of all tier 1 models	09/07/15	09/24/15	
	– Submit gap analysis and recommended remediation action plans for review	09/25/15	09/25/15	
	– Conduct reviews with MRMG including proposed Performance Monitoring action plans and MRMG's legacy Model Risk and Gap assessment remediation	09/28/15	12/16/15	
	– Approve performance monitoring remediation and Risk and Gap assessment action plans and resources needed	12/17/15	12/30/15	
	• Tier 2 Model Performance Monitoring	02/01/16	08/01/16	Silloway
	– Conduct performance monitoring gap analysis of all tier 2 models	02/01/16	04/04/16	
	– Submit gap analysis and recommended remediation action plans for review	04/05/16	05/23/16	
	– Conduct reviews with MRMG including proposed Performance Monitoring action plans	05/24/16	07/18/16	
	– Approve performance monitoring remediation and Risk and Gap assessment action plans and resources needed	07/19/16	08/01/16	
Professional Qualification Standards (PQS) Program	• Model Development PQS Policy	01/04/16	08/03/16	Silloway
	• PQS Handbook	02/08/16	10/03/16	Silloway
	– Establish project management	02/08/16	02/12/16	
	– Establish working group	02/15/16	02/19/16	
	– Identify list of initial modules	02/22/16	03/28/16	
	– Create modules	03/29/16	08/19/16	
	– Compile PQS Handbook and submit for review	08/22/16	09/16/16	
	– Review and critique	09/19/16	09/30/16	
	– Approve PQS Handbook	10/03/16	10/03/16	
	• PQS Qualifiers List	07/01/16	10/03/16	Silloway
	• Assign professional development goals based on PQS	10/04/16	10/26/16	MD Managers
	• Training	08/22/16	10/26/16	Silloway
	• 20% of Model Development personnel qualified in current role	10/13/16	12/27/16	Silloway
	• 50% of Model Development personnel qualified in current role	10/13/16	03/29/17	Silloway
	• 70% of Model Development personnel qualified in current role	10/13/16	06/29/17	Silloway

Summary plans

Risk Transformation

Model Development

Model Risk Management

Operational Risk

Finance Transformation

Data and IT

CCAR / DFAST

IHC

ELS (included in Finance Transformation)

Model Risk Management - Summary

Summary of FRB feedback

- Develop a formal SAN-US model risk management governance and oversight
- Develop a comprehensive plan to implement an effective model risk management framework
- Strengthen model risk management leadership as well as the quantity and quality of staff
- Develop a detailed and comprehensive inventory
- Perform rigorous validation of models within an appropriate timeline and remediate validation findings;
- Complete comprehensive model documentation and validation reports and
- Provide clear communication and reporting to the Board

Sub-workstreams in Model Risk Management

A. **Governance and Reporting**: Formal governance, oversight and reporting structure that clearly defines and aligns roles and responsibilities rolled out from the SHUSA Board to individual business units

B. **MRM Framework**: Effective framework covering standards, policy, procedures, and education across the end-to-end model lifecycle and a comprehensive model inventory

C. **Model Validation:** Comprehensive and consistent validation of all models and a clear process and framework for regular model reviews

D. **MRM Leadership and Staffing:** Adequate quality and quantity of staffing for MRM taking into account the existing workload, backlog and remediation efforts. Assessment and hiring strategy for all three LoDs

Potential execution risks

- Uncertainty of the quality and complexity of models and data quality including timeline for delivery of models for validation. Review with Model Development scheduled in August.
- Restructuring of SHUSA committees and changes to overall MRM governance process (e.g., charter updates, policy approval and implementation)
- Need for approval of MRM framework -- the planned timeline could be affected by changes to standards and requirements from Santander Group
- Ability to staff team given industry-wide competition for talent

Key deliverables	Due by
Strengthen Board and Management oversight: SHUSA charter	10/30/15
Enhance MRM Reporting: enhance BAU reporting standards	11/30/15
Perform near-term hiring based on validation backlog, CCAR and CART assessment	12/31/15
Define target operating model for long term staffing solution	12/31/15
Validate CCAR 2016 Models	03/31/16
Address Legacy Model Validation Backlog: conduct Tier 1 model risk and gap assessment	04/29/16
Validate Liquidity Risk Framework	05/27/16
Strengthen Board and Management oversight: cascading to entities	06/30/16
Implement Periodic Revalidation Process	03/31/17
Enhance MRM Framework, Policy / Procedures / Standards / Templates	03/31/17
Develop and Implement Controls and Monitoring/Review Process	06/16/17

Key dependencies

- **Risk Transformation**:
  - Risk appetite principles
  - Target operating model (TOM)
  - Individual risk reporting framework and templates
- **Model Development**:
  - Schedule for model validation readiness
  - Submission of models for validation on schedule
  - Model remediation plans
  - Model Development policies, procedures, standards for review
- **Finance:** LRM Framework for review
- **Data & IT:** Access to the modelling dataset
- **T&O, Internal Audit, and First Line:** assume roles and responsibilities per MRM policy
- **Enterprise Policy Administration (EPA):** Reviews, feedback and final EPA certification
- **Legal:**
  - Committee structure and dates
  - Charter and policy updates approval

Model Risk Management project plan (1/4)

• Deliverables
– Milestones under the deliverable
✓ Completed

Sub-workstream	Deliverables / milestones	Start	Finish	Owner
Governance and reporting	• Strengthen oversight of the MRM framework by the Board and senior management	07/13/15	05/08/17	Walsh
	– Educate Key Committees on MRM regulatory requirements and industry practices	07/13/15	09/30/15	
	– Clarify senior management roles in MRM. Revise SHUSA committee charters and mandates to strengthen MRM oversight role	07/13/15	10/30/15	
	– Update relevant charters for aligning MRM responsibility at SBNA & SCUSA	10/01/15	11/30/15	
	– Update relevant charters for aligning MRM responsibility at all legal entities in Puerto Rico, Miami, and New York Branches	04/11/16	06/30/16	
	– Define and Conduct Continuous Board and Senior Management Education regarding MRM expectations, regulatory requirements and industry practices	01/04/16	01/02/17	
	– Conduct Continuous Board and Senior Management Education regarding MRM expectations and regulatory requirements and industry practices at SBNA and SCUSA	05/09/16	05/08/17	
	– Conduct Continuous Board and Senior Management Education regarding MRM expectations and regulatory requirements and industry practices at all legal entities in Puerto Rico, Miami, and New York Branches	05/09/16	05/08/17	
	• Enhance Model Risk Management Reporting	07/08/15	12/30/16	Walsh
	– Enhance tactical model risk business-as-usual (BAU) reporting standards (incl. validation status of all CCAR models and limitations and related validation findings). Deliver enhanced reporting (incl. Senior Management & Board)	07/29/15	11/30/15	
	– Enhance Model Risk Appetite Statement	07/08/15	12/30/16	
	• Establish Program Management practice	05/08/15	03/24/17	Timmons
	– Establish Program Fundamentals (Monitoring and Control)	06/01/15	03/24/17	
	– Create project charter	06/12/15	07/31/15	
	– Rollout Program Planning	05/08/15	08/11/15	
	• Strengthen SCUSA Pricing Governance and Oversight	03/16/15	12/31/15	Grubb
	– Include the MRMG in SCUSA Pricing Governance	05/26/15	07/22/15	
	– Strengthen oversight of the pricing of SCUSA's products	04/17/15	07/22/15	
	– Enhance SCUSA pricing policies and procedures for SCUSA's products	03/16/15	07/22/15	
	– Review SCUSA pricing model governance and model risk policy against the new MRM framework and policy	10/01/15	12/31/15	

Model Risk Management project plan (2/4)

- **Deliverables**
- – Milestones under the deliverable
- ✓ Completed

Sub-workstream	Deliverables / milestones	Start	Finish	Owner
Model Validation	• Address Legacy Model Validation Backlog	06/19/15	07/15/16	MacManus
	– Define framework for model risk and gap assessment	06/19/15	06/25/15 ✓	
	– Prioritize legacy models according to identified metrics	06/19/15	08/07/15	
	– Collect and review legacy validation findings	08/03/15	08/31/15	
	– Perform Risk and Gap assessment (RGA) for highest priority legacy Tier 1 models	06/29/15	10/15/15	
	– Review Model Development and MRM RGA results and Model Development's Performance Monitoring assessment with Model Development, agree on remediation plans and resource needs	09/29/15	12/16/15	MacManus / Silloway
	– Complete validation of initial set of highest priority legacy Tier 1 models	10/16/15	12/31/15	
	– Perform risk and gap assessment for remaining legacy Tier 1 models	12/17/15	04/29/16	
	– Update validation plan and project plan	02/01/16	07/15/16	
	• Validate Models	06/15/15	12/29/17	MacManus
	– Define initial validation schedule/dates and with Model Development	06/15/15	06/30/15 ✓	
	– Collect and review validation findings	08/03/15	08/31/15	
	– Refine validation schedule w/ Model Development based on portfolio segmentation, model inventory, and CCAR Aggregation Platform	08/15/15	08/28/15	
	– Perform Model validation			
	• Risk Weighted Assets (includes remediation plan development by Capital Planning)	08/01/15	10/15/15	
	• CRE Risk Rating	08/18/15	11/18/15	
	• C&I Risk Rating	10/14/15	01/14/16	
	• Unsecured Loss Estimation (PD and LGD)	10/16/15	01/16/16	
	• Auto Lending Loss Estimation (PD and LGD)	11/02/15	02/02/16	
	• Auto Lending PPNR (Origination and Pricing)	11/02/15	02/02/16	
	• Deposit PPNR (Balance and Pricing)	03/01/16	06/01/16	
	• CRE Loss Estimation (PD, LGD and EAD)	09/29/17	12/29/17	
	• CRE PPNR (Origination and Pricing)	05/02/16	08/02/16	
	• CRE PPNR (Utilization and Prepay)	07/01/16	10/01/16	
	• C&I Loss Estimation (PD, LGD and EAD)	09/29/17	12/29/17	
	• C&I PPNR (Orig, Utiliz, Prepay and Pricing)	07/29/16	10/29/16	
	• OTTI (new vendor)	08/01/16	11/01/16	
	• Residential RE Loss Estimation (PD and LGD)	09/22/16	12/23/16	
	• Residential RE PPNR (Orig./ Utiliz. and Pricing)	10/03/16	01/03/17	
	• Residential RE Loss Est (HELOAN PD and LGD)	05/30/17	08/30/17	
	• Residential RE PPNR (HELOAN Orig and Pricing)	06/07/17	09/07/17	

For each model/model type the Model Risk Management team will validate the following:

- Review the models and create work plan
- Model Development Elements
  - Model Theory and Approach
  - Model Development Data
  - Model Estimation / Development
- Model Production Application
  - Implementation Testing Documentation
  - Technical Specifications
  - User's Guide or Operating Procedures
  - Operational Controls
  - Business Continuity Planning
- Ongoing Governance
  - Ongoing Risk and Performance Monitoring
  - Assumptions Management
  - Change Management

Additional items post-validation:

- Confirm validation findings with 1st LoD
- Approve validation findings and communicate to CCAR
- Notify Model Development for remediation

Model Risk Management project plan (3/4)

• **Deliverables**
– **Milestones under the deliverable**
✓ **Completed**

Sub-workstream	Deliverables / milestones	Start	Finish	Owner
Model Validation (cont.)	• Validate Liquidity Risk Framework	02/01/16	05/27/16	Walsh
	– Validate Liquidity Risk Framework	02/01/16	05/27/16	
	• Implement Periodic Revalidation Process	01/04/16	03/31/17	MacManus
	– Implement Periodic Revalidation Process	01/04/16	03/31/17	
MRM Framework	• Develop Model Development plan to implement MRM Framework/Policy	07/06/15	12/16/15	Silloway
	• Enhance MRM Framework, Policy / Procedures / Standards / Templates	05/01/15	03/31/17	Walsh
	– Develop Framework document - enhance decision making authority & roles and responsibilities for approving models and model changes	07/03/15	09/30/15	
	– Short term Inventory Certification Updates	05/01/15	08/30/15	
	– Enhance Provisional Approval (PA) process, clarify roles and responsibilities	06/01/15	10/06/15	
	– Redesign model tiering Methodology	06/01/15	07/31/15	
	– Redesign Risk Rating Methodology	06/30/15	10/30/15	
	– Update MRM policy and procedure based on SR 11-7 guidance (gap analysis) including detailed model validation testing procedures	06/01/15	10/31/15	
	– Implement Policy/procedure/standards/templates	11/02/15	03/31/17	
	– Continuous Review and Enhancement of Policy and Procedures	11/02/15	02/28/17	
	– Define and implement methodology for capital buffer to compensate for level of model risk	06/15/15	03/31/17	
	– Develop and deliver Training on updated Policy / Procedures / Standards / Templates	09/24/15	12/30/16	
	– Cascade training to SBNA	05/02/16	12/30/16	
	– Cascade training to SCUSA	05/02/16	12/30/16	
	– Cascade training to all legal entities in Puerto Rico, Miami, and branches	05/02/16	12/30/16	
	– Develop library of model risks and validation tests	08/03/15	09/24/15	
	• Develop and Implement Controls and Monitoring/Review Process	11/02/15	06/16/17	Silloway
	– Develop process to monitor and review models, including change management process	01/04/16	02/11/16	
	– Implement Controls and Monitoring/Review Process	11/02/15	06/16/17	

Model Risk Management project plan (4/4)

- • Deliverables
- – Milestones under the deliverable
- ✓ Completed

Sub-workstream	Deliverables / milestones	Start	Finish	Owner
MRM Leadership and Staffing	• Hire immediate-term for known staffing requirements based on volume of validation required	05/15/15	12/31/15	Fahs
	– Assess resource needs, budget and determine/obtain approval for supplemental FTE headcount	06/01/15	07/31/15	
	– Conduct interviews and hire approved incremental FTEs	07/01/15	12/31/15	
	– Assess resource needs and determine/obtain approval for consultant/advisory personnel headcount	05/15/15	07/31/15	
	– Determine roles and responsibilities of consultants and prepare onboarding resources	09/17/15	12/31/15	
	• Long term staffing solution	09/01/15	01/19/17	Fahs / Silloway
	– Define Target Operating model (including org structure)	09/01/15	12/31/15	
	– Conduct talent and staffing assessment for MRMG	10/15/15	02/29/16	
	– Conduct First Line and auxiliary functions (IT, etc.) talent and staffing assessment (Ref: Model Development Plan for first line)	10/15/15	03/29/16	
	– Develop staffing/hiring strategy, budget (including external resources) and plan based on assessment, backlogs, and workloads (Existing and projected)	02/01/16	04/30/16	
	– Commence hiring strategy/plan in partnership with the First Line/Model Development based on the defined Target Operating Model	05/01/16	05/01/16	
	– Execute Hiring Plan and Conduct Staffing Re-Assessment for Future Hiring	05/01/16	01/19/17	
IT / Data Enablement	• Provide SAS environment to meet requirements of model risk management validation standards for SCUSA, SBNA, SHUSA, and other entities	06/15/15	09/19/15	Garijo / Alcantara
	– SAS validation environment created by T&O	06/15/15	09/19/15	
	– Capability building in the tool conducted by T&O	06/15/15	07/31/15	
	– Provide access to the same data set as model development	07/31/15	09/19/15	
	• Select and implement long-term Model Inventory and Reporting System (MIRS)	09/15/15	03/31/16	Riley
	– Define requirements and select the Model Inventory and Reporting System (MIRS)	09/15/15	12/31/15	
	– Update project plan based on requirements and tool selection	01/04/16	03/31/16	

Summary plans

Risk Transformation

Model Development

Model Risk Management

Operational Risk

Finance Transformation

Data and IT

CCAR / DFAST

IHC

ELS (included in Finance Transformation)

Operational Risk - Summary

Summary of FRB feedback

- ORM framework is not sufficiently developed to identify, measure and monitor firm's risks
- SHUSA must implement a robust, comprehensive data collection method, use complete data sets when modeling
- Significant issues identified in SHUSA's recently re-developed model to forecast ops risk losses, some of which were the same as cited in CCAR 2014

Sub-workstreams in Operational Risk

A. **Risk appetite:** communicate key risk/return trade-offs and tolerance, aligned with overall SHUSA enterprise risk appetite
B. **Governance and organization:** organizational structure of ORM to ensure strong loss and event data capture, as well as sound methodology to estimate stressed losses and roll-out of ops risk framework
C. **Risk ID & measurement:** tools and processes to quantify SHUSA's true operational risk profile, e.g., robust loss and event data capture, near misses, risks and controls self-assessment ("RCSA")
D. **Risk management processes:** management of SHUSA's operational risks (informed by risk ID and measurement) and application to strategic decisions
E. **Risk monitoring:** reports to key internal and external stakeholders, including the SHUSA Board, summarizing the enterprise's risks

Potential execution risks

- Limitations in the quality and history of internal loss data
- Dependency on the timely delivery of technology solution for issue management, loss data collection
- High dependency on external resources, consultants and vendors
- Ability to attract the right talent particularly in the first line of defense to drive ownership and accountability

Key deliverables	Due by
Approve operational risk framework	01/29/16
Approve operating model for operational risk	01/30/16
Revise existing thresholds for Material Event Escalation	03/31/16
Establish operational risk policies & standards across SHUSA entities	03/31/16
Implement operational risk Loss Forecasting for CCAR and document	03/31/16
Initiate Issue ID and Loss Data Capture	03/31/16
Roll out Scenario Analysis	12/31/16
Implement prioritized set of operational risk metrics for Risk Appetite	12/31/16
Initiate use of operational risk reports in management decision making	12/31/16
Initiate operational Risk Y-14Q Reporting	03/31/17
Roll out Information Risk Management (IRM) Tools and Processes	06/30/17
Roll out Business Continuity Management (BCM) Tools and Processes	09/30/17
Conduct skills assessment and training	Ongoing
Roll out Third Party Risk (TPR) Tools and Processes	Ongoing

Key dependencies

- **Risk Transformation:**
  - Operational risk metrics for Risk Appetite – a documented set of recommended enhanced operational risk limits with clear rationale, definitions and thresholds
  - Operational risk framework
  - Operating model
  - Operational Risk Policies and standards across all legal entities
- **Model Risk Management:** Validation of regression models used in core stress testing loss methodology
- **Data & IT:**
  - Issue management & Loss data capture tools
  - Automated reporting of Y'14Q from "golden source"

Operational Risk project plan (1/3)

• Deliverables
– Milestones under the deliverable
✓ Completed

Sub-workstream	Deliverables / milestones	Start	Finish	Owner
Risk Appetite	• Implement prioritized set of operational risk metrics for Risk Appetite (SHUSA / SBNA / SCUSA)	06/15/15	12/31/16	Gunn
	– Document prioritized set of operational risk limits with clear rationale, definitions and thresholds	06/15/15	08/31/15	
	– Implement processes to effectively monitor and report on prioritized operational risk limits	09/01/15	12/31/16	
	• Implement operational risk metrics for Risk Appetite for all other entities	01/01/16	12/31/16	
Governance & Organization	• Approve Operational risk framework	09/01/15	01/29/16	Gunn
	– Approve SHUSA operational risk framework	09/01/15	01/29/16	
	• Approve operating model for operational risk	08/06/15	01/30/16	Gunn
	– Define key gaps in the operating model	08/06/15	11/30/15	
	– Draft operating model	09/03/15	12/31/15	
	– Approve final operating model design	01/01/16	01/30/16	
	• Establish operation risk policies and standards across SHUSA legal entities	07/01/15	03/31/16	Gunn
	– Establish and approve SHUSA Enterprise Operational Risk Management Policy and Standards (incl. Issue Management, Loss Data Capture) based on gap analysis	07/01/15	12/31/15	
	– Establish implementation plan for SHUSA Enterprise ORM Policy and Standard and institute monitoring	01/01/16	03/31/16	
	– Establish and approve SHUSA RCSA Methodology aligned with industry standard	07/01/15	12/31/15	
	– Establish implementation plan for SHUSA RCSA rollout	01/01/16	03/31/16	
	– Establish and approve SHUSA Enterprise Information Risk Management Policy and Standards based on gap analysis	07/01/15	12/31/15	
	– Establish implementation plan for SHUSA Enterprise IRM Policy and Standard and institute monitoring	01/01/16	03/31/16	
	– Establish and approve SHUSA Enterprise Third Party Risk Management Policy and Standards based on gap analysis	07/01/15	12/31/15	
	– Establish implementation plan for SHUSA Enterprise TPRM Policy and Standard and institute monitoring	01/01/16	03/31/16	
	– Establish and approve SHUSA Enterprise Business Continuity & Disaster Recovery Policy and standards based on gap analysis	07/01/15	12/31/15	
	– Establish implementation plan for SHUSA Business Continuity & Disaster Recovery and institute monitoring	01/01/16	03/31/16	
	• Conduct skills assessment and training	01/01/16	Ongoing	Gunn
	– Execute skills assessment, develop training requirements for SHUSA, SBNA and SCUSA	01/01/16	06/30/16	
	– Execute skills assessment, develop training requirements for the other legal entities	01/01/16	09/30/16	
	– Initiate rollout of relevant training	07/01/16	Ongoing	

Operational Risk project plan (2/3)

• **Deliverables**
– **Milestones under the deliverable**
✓ **Completed**

Sub-workstream	Deliverables / milestones	Start	Finish	Owner
Risk Identification and Measurement	• Initiate Issue ID and Loss Data Capture	08/01/15	03/31/16	Gunn
	– BRD for Known Issues and Loss Data Capture is completed	08/01/15	12/31/15	
	– Conduct validation for SHUSA Issues Management Tool (data repository) and make it ready for rollout	01/01/16	03/31/16	
	– Initiate ongoing population of Issues in the tool	04/01/16	Ongoing	
	– Conduct validation for SHUSA Loss Data Capture Tool and make it ready for rollout	01/01/16	03/31/16	
	– Initiate ongoing population of loss data in the tool	04/01/16	Ongoing	
	• Revise existing thresholds for Material Event Escalation	08/01/15	03/31/16	Gunn
	– Collect data for material events from peer institutions	08/01/15	12/31/15	
	– Update material event threshold in line with peer study	01/01/16	03/31/16	
	• Roll out Scenario Analysis	08/01/15	12/31/16	Gunn
	– Document methodology of scenario analysis in line with regulatory standards	08/01/15	10/31/15	
	– Conduct targeted scenario analysis at a SHUSA level that will feed into stress testing for CCAR	09/01/15	12/31/15	
	– Expand scope and number of scenarios across SHUSA's legal entities	01/01/16	12/31/16	
	• Rollout Information Risk Management (IRM) Tools and Processes	10/28/15	06/30/17	Hauge
	– Refine IRM Methodology to focus on known and existing threats and vulnerabilities	10/28/15	03/31/16	
	– Develop automated IRM Assessment Process	04/01/16	06/30/16	
	– Train subsidiaries on IRM methodology	07/01/16	11/30/16	
	– Conduct IRM Risk assessment across select assets	12/01/16	06/30/17	
	• Rollout Third Party Risk (TPR) Tools and Processes	08/01/15	Ongoing	Hamilton
	– Refine TPR methodology based on industry leading practices, regulatory guidance and general SHUSA approach	08/01/15	03/31/16	
	– Refine inherent risk classification, complete questionnaire and perform onsite reviews for select critical vendors	08/01/15	06/30/16	
	– Establish ongoing monitoring for all critical and high rated Third Party services	07/01/16	Ongoing	
	– For each critical vendor identified, establish Exit Planning Guidance for critical and high rated services at all entities	07/01/16	Ongoing	
	• Rollout Business Continuity Management (BCM) Tools and Processes	08/17/15	09/30/17	Phillips
	– Review of existing BCM process and update to comply with any regulatory or SHUSA policy changes	08/17/15	06/30/16	
	– Review and update BIA process for SBNA and SCUSA	08/17/15	06/30/16	
	– Identify gaps from current BIAs for SBNA and SCUSA critical processes, applications and testing	08/17/15	06/30/16	
	– Review exercise results for SBNA and SCUSA	09/01/15	06/30/16	
	– Review and update BIA process for all other entities	07/01/16	09/30/17	
	– Identify gaps from current BIA for other entity critical processes, applications and testing	07/01/16	09/30/17	
	– Execute BIAs for SHUSA and all subsidiaries identifying critical applications and processes	10/01/16	09/30/17	
	– Enhance the BCM process and its consistency by leveraging relevant tools	10/01/16	09/30/17	

Operational Risk project plan (3/3)

- • Deliverables
- – Milestones under the deliverable
- ✓ Completed

Sub-workstream	Deliverables / milestones	Start	Finish	Owner
Risk Identification and Measurement (continued)	• Implement Operational Risk Loss Forecasting for CCAR and document	08/01/15	03/31/16	Gunn
	– Develop loss forecasting methodology and models including regression models and LDA models (as needed) commensurate with scope and quality of ILD	08/01/15	11/30/15	
	– Augment internal data with external loss data for stressed loss calculation	08/01/15	11/30/15	
	– Implement robust methodology for stressing legal losses	09/01/15	01/31/16	
	– Aggregate the different elements of the stressed loss calculation, ensure strong review and challenge and robust documentation	01/01/16	03/31/16	
Risk management	• Establish Operational risk internal reporting	10/01/15	03/31/16	Gunn
	– Establish baseline for operational risk dashboards and reporting for ORM, IRM, TPRM and BCM for SHUSA and its subsidiaries and include in monthly governance reporting	10/01/15	03/31/16	
	• Initiate use of operational risk reports in management decision making	04/01/16	12/31/16	Gunn
	– Use Risk dashboards to support management decision making	04/01/16	12/31/16	
Risk monitoring	• Initiate Operational Risk Y-14Q Reporting	07/01/15	03/31/17	Gunn
	– Develop timely reporting mechanisms and processes to satisfy OR Y-14Q reporting requirements	07/01/15	03/31/16	
	– Produce 'Y14Q reports through automated process from "golden source“	10/01/15	03/31/17	
	• Automate SBNA reporting	10/01/15	03/31/17	
	• Automate SCUSA reporting	01/06/16	03/31/17	
	• Automate other entity reporting	03/31/16	03/31/17	

Summary plans

Risk Transformation

Model Development

Model Risk Management

Operational Risk

Finance Transformation

Data and IT

CCAR / DFAST

IHC

ELS (included in Finance Transformation)

Finance Transformation (including ELS) - Summary

Summary of FRB feedback

- Develop a capital planning governance structure that includes committee, organizational, and policy structures that incorporate all entities within BHC
- Ensure that SHUSA has a comprehensive capital policy that addresses the major components of SHUSA's capital planning process and links to, and is supported by, other policies

Sub-workstreams in Finance transformation

- **Capital Planning and Management**: Management of effective capital governance, adequacy, strategy, controls, and reporting
- **Accounting, Tax and Reporting**: Consolidation and reporting of financial statements and supporting information to regulators and the parent
- **Treasury**: Operationalization of SHUSA's consolidated Liquidity Risk Management (LRM) framework, including establishment of the LRM data warehouse
- **Financial Planning and Analysis**: Development of capabilities for strategic planning and forecasting, reporting and analysis, and business performance analytics

Potential execution risks

- Dependency on the timely delivery of technology capabilities (significant T&O dependencies)
- Dependency on timely delivery of robust modeling solutions
- Ability to scale internal talent within tight timelines (timing and availability of quality resources)
- Lack of visibility into future staffing needs

Key deliverables	Due by
▪ Enhance RWA forecasting process for SHUSA and material entities	12/31/15
▪ Implementation of robust set of assumptions for PPNR models and non-modelled assumptions for CCAR	12/31/15
▪ Enhance forecast and aggregation process and tool	12/31/15
▪ Develop and implement Enterprise Liquidity Risk Management (LRM) framework	03/15/16
▪ Revise and implement capital policies for SHUSA and its subsidiaries	04/01/16
▪ Consolidated reporting (SEC, Regulatory, Tax, and Management); improve processes and consolidation controls including reconciliations between sources of historical data and reporting; and increased amount of general ledger information available from direct system feeds	06/30/16

Key dependencies

- **Data & IT:**
  - Availability of quality data for:
    - Capital and strategic planning
    - Consolidated regulatory reporting
    - Production of 2052A liquidity report
  - Successful implementation of Hyperion and reporting capabilities
  - SAS forecasting tool implementation and Vena enhancement to populate FR Y-14A filings
- **Risk Transformation**: Material Risk Program outputs
- **Model Development:**
  - Development of PPNR forecast methodologies/assumptions
  - New deposits model to support additional analysis including stable/non stable, operational deposits and insured/non-insured
  - Timely completion of model development and validation, or alternate approaches to produce a valid forecast
- **Model Risk Management:** Liquidity Risk Management Framework validation

Finance Transformation project plan (1/4)

• Deliverables
– Milestones under the deliverable
✓ Completed

Sub-workstream	Deliverables / milestones	Start	Finish	Owner
Capital Management	• Capital policies for SHUSA and its subsidiaries revised and implemented:	07/06/15	04/01/16[1]	Simon
	– Revise and implement capital policies for SHUSA and material subsidiaries	07/06/15	11/27/15	Simon
	• Enhance Governance and Internal Controls sections	10/05/15	10/30/15	
	• Enhance Capital Expectations sections	07/06/15	10/30/15	
	• Enhance Capital Assessment Process sections	09/07/15	10/09/15	
	• Enhance Capital Early Warning Indicators section	11/23/15	11/27/15	
	• Enhance Capital Generation and Deployment sections	08/17/15	11/06/15	Simon
	– Revise and implement Capital Contingency Policy	10/19/15	11/27/15	Simon
	– Update Contingent Capital Plan	10/05/15	04/01/16	Simon
	• Integration of MIA-BSI, NY-SIS and PR entities into the SHUSA forecasting process for CCAR 2016	07/13/15	03/11/16	Simon / Budington
	– Conduct foundational data gathering and assessment for all available historical data (Balances, Fees and Expenses, Interest Income/Expense, Pricing, Losses, ALLL)	07/13/15	09/07/15	Simon
	– Develop forecasting methodologies for Balance Sheet, PPNR, Losses and ALLL	08/17/15	12/31/15	Budington
	– Develop processes for aggregation, internal controls, and populating FR Y-14A contributor files	10/05/15	12/31/15	Simon
	– Effective integration of MIA-BSI, NY-SIS and PR entities in stress testing process	02/29/16	03/11/16	Simon
	• Implementation of enhanced reporting to Board and Management Capital Committee to enable effective governance	05/04/15	01/22/16	Garcia
	– Enhance standards and metrics for quarterly Capital Management reports	12/07/15	01/22/16	Simon
	– Institute processes to generate monthly Capital Management reports	05/04/15	12/18/15	Barris
	• Enhanced and strengthened forecast and aggregation process:	05/04/15	12/31/15	Garcia
	– Produce enhanced FRY-14A through automation in VENA for CCAR 2016	05/04/15	12/31/15	Barris
	– Develop, document and test customized SAS forecast and aggregation process and tool *(see FP&A work plan)*			Budington
	• Enhancement of RWA Forecasting process for SHUSA and material entities	07/13/15	12/31/15	Barris
	– Fully align RWA forecasting approach to Basel III	09/14/15	10/09/15	Barris
	– Implement SSFA forecasting model	07/13/15	10/31/15	Barris
	– Enhance RWA documentation (policies, procedures, methodologies and assumptions)	10/19/15	12/31/15	Barris

1 Continued enhancements in 2017 – 2018, based on feedback from Audit and FRS or any significant changes to SHUSA and subsidiary businesses

Finance Transformation project plan (2/4)

- **Deliverables**
- – **Milestones under the deliverable**
- ✓ **Completed**

Sub-workstream	Deliverables / milestones	Start	Finish	Owner
Capital Management (continued)	• Phased build out of strategic enhancements to the capital planning for 2017 – 2018:	01/01/15	09/01/18	Garcia
	– Implement forward-looking measure of stress in the capital expectations	06/01/16	12/01/17	Garcia
	– Enhance the stress-testing and forecasting process by using accurate historical data and improving methodologies through automation	06/01/16	06/01/17	Garcia
	– Fully integrate the MIA-BSI, NY-SIS and PR entities into the SHUSA forecasting processes and tools	06/01/16	09/01/18	Garcia
	– Transition to a central data warehouse for all forecasting data	06/01/17	09/01/18	Garcia
Accounting, Tax, and Reporting	• Consolidated reporting across SHUSA and subsidiaries (SEC, Regulatory, Tax, and Management); improved processes and consolidation controls including reconciliations between sources of historical data and reporting; and increased amount of general ledger information available from direct system feeds	01/15/15	06/30/16	Reinhard
	– Establish control model across appropriate sources of financial data for financial/regulatory reports (Y-9C, Y-14's, SEC, and other regulatory reporting)	06/01/15	12/31/15	Boyle
	– Implement Hyperion platform for consolidated financials reporting	01/15/15	06/30/16	Reinhard
	– Produce FRY-14M, Y14Q Granular Schedules	02/02/15	06/30/16	Ratican
	– Produce Purchase Mark Accounting	07/15/15	02/29/16	Ratican
	– Establish reconciliation process between reporting tools and HFM	11/30/15	06/30/16	Reinhard
	• Phased implementation of further automation of consolidated reporting process across SHUSA and subsidiaries (long term architecture)	06/30/16	12/21/18	Reinhard
	• Deploy a uniform reconciliation tool (SHUSA and subsidiaries)	03/01/16	12/31/17	Omole
	• Homogenize accounting policies for SHUSA and subsidiaries	01/01/15	10/31/15	Velazquez
	• Expand Tax Provision to support all subsidiaries	06/01/15	06/30/16	Swartz
	• Establish methodology for calculation of taxable income, tax expense, and release of deferred taxes, etc. for SHUSA, SCUSA, SBNA plus all subsidiaries	06/01/15	12/31/15	Swartz

Finance Transformation project plan (3/4)

- • Deliverables
- – Milestones under the deliverable
- ✓ Completed

Sub-workstream	Deliverables / milestones	Start	Finish	Owner
Treasury (includes ELS)	• Enterprise Liquidity Risk Management (ELRM) framework	09/19/14	03/15/16	Lavelle
	– Develop ELRM Policy & Procedures and acquire approval from the Board	09/14/14	05/29/15 ✓	
	– Implement ELRM Policy & Procedures at SHUSA, SCUSA, SBNA and all subsidiaries	07/01/15	11/30/15	
	• Operating Liquidity Risk Management (OLRM)	04/03/15	11/30/15	Lavelle
	– Develop OLRM Policy & Procedures and acquire approval from the Board	04/03/15	06/26/15 ✓	
	– Implement OLRM Policy & Procedures at SHUSA, SCUSA, SBNA and all subsidiaries	07/01/15	11/30/15	
	• Implement Operating Model (Limits & Monitoring, Issue Escalation, Training, etc.)	09/19/14	03/15/16	Aya
	– Develop Operating Model Policy & Procedures and acquire required approvals	09/19/14	06/26/15 ✓	
	– Implement Operating Model Policy & Procedures at SHUSA, SCUSA, SBNA and all subsidiaries	07/01/15	03/15/16	
	• Complete independent review for LRM adequacy and effectiveness	07/07/15	05/27/16	Lasso
	• Identify, improve and implement enhancement to Operating Model	07/01/15	05/27/16	Cipullo
	• Develop solutions for data acquisition and storage to support 2052A regulatory reporting (including LRM data mart)	09/19/14	03/31/16	Aya
	– Obtain data to develop solution to generate LCR reporting based upon data submitted via 2052A	12/15/14	03/31/16	Picos
	• Define methodology, requirements and high level technology & architecture for Funds Transfer Pricing	06/15/15	06/30/17	Aya
	– Define FTP Operating Model	12/01/15	12/31/15	
	– Synchronize Yield Curves, Market Issues, Methodologies, and Products	06/15/15	03/31/16	
	– Implement solutions for Funds Transfer Pricing	01/01/16	06/30/17	
	• Enhance Investment Portfolio /Credit Review	06/08/15	06/30/16	Brundige
	– Add modifications to Policy & Procedures	06/08/15	06/25/16	
	– Develop pre-purchase analysis templates	07/01/15	12/31/15	
	– Conduct detailed post-purchase review for existing corporate portfolios	07/01/15	06/25/16	
	• Set up QRM environment (Chart of accounts & dimensions, controls & processes analyzed and optimized)	06/01/15	12/31/15	Biswas
	• Enhancement and implementation of Interest Rate Risk (IRR) framework	07/01/15	12/31/16	Biswas
	• Implement new QRM infrastructure and configurations to produce IRR metrics and cash flow projections	07/01/15	09/30/17	Aya
	– Analyze, revise and enhance QRM operating environment including prudent mix of Chart of Accounts and dimensions, access controls and optimization of processes	07/01/15	05/01/17	Neath
	• Develop advanced reports to meet regulatory requirements for liquidity	03/30/15	09/28/17	Aya
	• Complete build out of Asset Liability Management (ALM) data warehouse	03/16/15	06/30/17	Picos

Finance Transformation project plan (4/4)

- • Deliverables
- – Milestones under the deliverable
- ✓ Completed

Sub-workstream	Deliverables / milestones	Start	Finish		Owner
FP&A	• FP&A Policy Documentation and Implementation	06/01/15	10/30/15		Budington
	– Review and approve Governance Model design	06/01/15	09/30/15		
	– Align strategic planning and capital planning governance and policies	06/01/15	09/30/15		
	– Review and approve Planning Process design	06/01/15	10/30/15		
	– Review and approve Planning Guide framework design	06/01/15	10/30/15		
	• Implementation of robust set of assumptions for PPNR models and non-modelled assumptions for CCAR 2016	06/01/15	12/31/15		Iyer
	– Develop forecast methodologies or assumptions and supporting analysis	06/01/15	10/31/15		
	– Develop and maintain statistical models (see Model Development work plan)				
	– Develop and maintain non-modeled analytics	06/01/15	12/31/15		
	• Integrate CCAR forecast methodologies into strategic planning process	01/01/16	12/31/16		Budington
	• Develop, document and test customized SAS forecast and aggregation process and tool	03/15/15	12/31/15		Budington
	– Design and build customized SAS forecast and aggregation tool	03/15/15	06/30/15	✓	
	– Test SAS forecast and aggregation tool	07/01/15	11/01/15		
	– Document SAS forecast and aggregation tool	05/15/15	12/31/15		
	• Finalize FP&A Operating Model design and implementation plan	06/01/15	02/01/16		Budington / Ruiz
	– Prepare detailed business requirement for planning and reporting	06/01/15	09/30/15		
	– Implement enhanced managerial reports to support monthly Business Reviews	07/08/15	11/30/15		
	– Perform high level technology assessment to support TOM	08/24/15	10/30/15		
	– Develop detailed implementation plan	10/30/15	02/01/16		
	• Build out of FP&A Target Operating Model and supporting architecture	02/01/16	12/31/18		Budington / Ruiz

Summary plans

Risk Transformation

Model Development

Model Risk Management

Operational Risk

Finance Transformation

Data and IT

CCAR / DFAST

IHC

ELS (included in Finance Transformation)

Data and IT - Summary

Summary of FRB feedback

- Immediately develop a plan to comprehensively identify, define, and remediate data deficiencies in order to measure and monitor risk, conduct capital planning, and complete required regulatory reporting. The plan should also include a data governance and data quality program to oversee data remediation efforts and ensure robust data collection and maintenance practices going forward.
- Perform a gap analysis of the firm's IT infrastructure and data management systems that support the end-to-end capital planning process. A project plan…developed to address identified gaps within a timeframe that reflects the complexity of the remediation efforts.

Sub-workstreams in Data and IT

A. Technology and capabilities gap assessment: Rigorous and fact-based gap assessment using a quantitative and qualitative methodology followed by development of a project plan to adequately address the gaps

B. Target-state IT architecture infrastructure and tools: Definition of target-state architecture to deliver on long-term goals of the CART program, automation of modelling and CCAR schedule production, including implementation of data warehouses

C. Effective data governance and data quality program: Execution of programs enforcing strong assignment of ownership and stewardship and building structured and repeatable data quality, and creation of end-to-end data control framework

D. Data delivery: Creation of a data clearinghouse to support data requirements from the business, documentation of data lineage and controls for critical manual processes, and implementation of security programs

Potential key risks

- Limited technology and business resources as well as recruitment challenges within set timeframe to accomplish committed deliverables

Key deliverables	Due by
▪ Develop SAS Cloud / Grid data environment	07/31/15
▪ Load CCAR modeling data requirements into SAS environment	08/14/15
▪ Implement SHUSA privileged access management – access attestation & certification solution Phase 1	12/31/15
▪ Conduct a comprehensive gap assessment in IT infrastructure and data management systems	12/31/15
▪ Build data management and quality (DQ) control centers	01/31/16
▪ Design the data management program	02/29/16
▪ Design detailed target state IT architecture for CART program	06/30/16
▪ Enhance QRM operating environment	05/01/17
▪ Build enterprise data warehouse(s)	12/31/17

Key dependencies

Risk Transformation, Model Development, Operational Risk, Model Risk Management, Finance Transformation:

- Business requirements for data needs and IT developments
- Agreed List of Data Domain Definition Documents
- Established Owners, Stewards, Working Groups for Data Governance program
- KDEs Identified, Documented and Approved by Domain
- KDE prioritization
- Data Domains Rollout

Data & IT project plan (1/6)

- Deliverables
– Milestones under the deliverable
✓ Completed

Sub-workstream	Deliverables / milestones	Start	Finish[1]	Owner
Technology and capabilities gap assessment	• Conduct a comprehensive gap assessment in IT infrastructure and data management systems to cover CCAR and SBNA and SCUSA	06/01/15	12/31/15	Silva
	– Define the gap assessment methodology	06/01/15	10/31/15	
	– Execute the end to end data and systems gap assessment (including source systems) across SHUSA, SBNA and SCUSA	06/01/15	12/31/15	
	– Identify critical deficiencies and prioritize them for remediation	09/01/15	12/31/15	
	• Expand the gap assessment to include additional legal entities and IHC	01/01/16	06/30/16	Silva
	– Execute the end to end gap assessment (up to source systems) across Miami, PR, SIS	01/01/16	06/30/16	
	– Identify critical deficiencies and prioritize them for remediation	01/01/16	06/30/16	
	• Develop and deliver SHUSA Identify initiatives including Asset Inventory, Business Continuity, Compliance Management and Vendor Risk Management	07/1/15	04/29/16	Cignarella
	• Create aggregated IT risk assessment document	06/01/15	06/30/16	Cignarella
	– Other SHUSA Entity Risk Assessment Documentation	06/01/15	04/15/16	
	– Create and Publish SHUSA IT Risk Assessment Methodology Document	06/30/15	12/15/15	
	– Develop IT Risk Aggregation Model and approve by IT	06/17/15	01/15/16	
	– Load Risk and Compliance Tool (iGRC) Instance with Business Hierarchy for SHUSA, SBNA, SCUSA	10/30/15	03/15/16	
	– Populate iGRC data for SHUSA, SBNA and SCUSA	10/31/15	04/15/16	
	– Create and Publish SBNA and SCUSA Risk Assessment Methodology Document	08/01/15	05/30/16	
	– Create aggregated risk assessment Methodology Document Phase 1	11/15/15	06/30/16	
	– Define top IT Risk Scenarios	08/03/15	06/30/16	
	– Determine RTS/KRI/KPI and associated tolerance levels	07/01/15	06/30/16	
	• Identify and assess Governance Operating Model, Guidelines, Standards, Processes and Procedures	06/01/15	11/30/15	Ames
	– Identify Governance operating model, guidelines and process requirements for T&O	06/01/15	07/30/15	
	– Determine and prioritize inventory of governance operating policies	06/01/15	07/30/15	
	– Determine and prioritize inventory of governance standards	06/22/15	10/31/15	
	– Draft and approve operating model, guidelines, and processes	08/01/15	11/30/15	
	– Draft and approve policies and standards	08/01/15	11/30/15	

1 Finish dates indicate IT readiness

Data & IT project plan (2/6)

- Deliverables
- – Milestones under the deliverable
- ✓ Completed

Sub-workstream	Deliverables / milestones	Start	Finish[1]	Owner
Technology and capabilities gap assessment	• Establish IT architecture practices	01/01/15	06/30/16	Silva
	– Create sustainable APM practice to improve ongoing operational effectiveness and ensure success of CART work efforts	01/01/15	06/30/16	
	– Create sustainable EA practice to improve ongoing operational effectiveness and ensure success of CART work efforts	01/01/15	06/30/16	
	• Approve & publish IT governance document in EPAP-compliant format	07/20/15	04/30/16	Hillas / Cignarella
	– Create demand management process for IT	07/20/15	12/31/15	
	– Design capacity management process	07/20/15	12/31/15	
	– Draft and approve prioritized IT policies	11/30/15	01/15/16	
	– Draft and approve prioritized IT standards	01/01/16	03/15/16	
	– Based on current policies and standards, document roles and responsibilities and Standard Operating Procedure	01/01/16	04/30/16	
Target-state IT architecture infrastructure and tools	• Design detailed target state IT architecture to deliver CART program	06/01/15	06/30/16	Silva
	– Define end state business architecture for SHUSA (in collaboration with the business)	06/01/15	06/30/16	
	– Define end state application / data architecture that will serve CCAR, EPS, and ELS needs in the longer term	06/01/15	06/30/16	
	– Define and document interim state architectures (including CCAR 2016)	09/01/15	12/31/15	
	• Build enterprise data warehouse(s)	07/01/15	12/31/17	Picos
	– Implement staging layer at SBNA/SCUSA for FRY-14 M/Qs (LOAN) submission	07/10/15	03/31/16	
	– Implement staging layer at SBNA/SCUSA for FRY-14 M/Qs (NON LOAN) submission (pending requirements)	07/01/15	03/31/16	
	– Design and implement data warehouse (focused on CCAR scope) at SBNA/SCUSA	04/01/16	12/31/16	
	– Design and implement data warehouse (for the full data scope)	07/01/16	12/31/16	
	– Expand data warehouse sources to other legal entities (SIS, Miami, PR) for full scope (FRY-14 M/Q, CCAR and Credit Risk)	07/01/15	12/31/17	

1 Finish dates indicate IT readiness

Data & IT project plan (3/6)

• Deliverables
– Milestones under the deliverable
✓ Completed

Sub-workstream	Deliverables / milestones	Start	Finish[1]		Owner
Effective data governance and data quality program (1 of 3)	• Design the data management program	01/01/15	02/29/16		Flanagan
	– Reevaluate data mgmt policy / framework to ensure alignment with regulatory expectations	08/11/15	09/30/15		
	– Obtain the approval of the revised data management policy / framework	08/14/15	12/31/15		
	– Refine operating model between CDO in SHUSA and Legal Entities	01/01/15	11/30/15		
	– Conduct data maturity assessment (SHUSA, SBNA, SCUSA)	10/01/15	02/29/16		
	• Create Chief Data Office (CDO) organization	05/05/14	12/31/15		Flanagan
	– Build out CDO organization (SHUSA)	01/01/15	12/31/15		
	– Build out CDO organization (SBNA)	05/05/14	12/31/14	✓	
	– Build out CDO organization (SCUSA)	01/01/15	12/31/15		
	• Establish data ownership (SHUSA, SBNA, SCUSA)	06/10/14	07/10/15	✓	Flanagan
	– Finalize list of data domain with business units	06/10/14	07/10/15	✓	
	– Finalize identification of data owners and stewards against data domains with business units	06/01/15	07/10/15	✓	
	– Conduct data management training for data stewards	06/01/15	07/10/15	✓	
	• Establish data governance routines	01/01/15	10/31/15		Flanagan
	– Launch data governance Steering Group (leveraging CART SteerCo)	07/01/15	07/10/15	✓	
	– Launch data governance council	01/01/15	07/10/15	✓	
	– Launch data management working groups (e.g., data quality, data stewardship)	07/01/15	10/31/15		
	• Build data management and quality (DQ) control centers	07/01/15	01/31/16		Flanagan
	– Define issue management, tracking and reporting process	07/01/15	09/30/15		Omole
	– Staff data mgmt control center for DM issue management, reporting, and analysis	07/01/15	12/31/15		
	– Staff data quality operations for DQ profiling, assessment/controls and remediation	07/01/15	12/31/15		
	– Define issue analysis and remediation process	07/01/15	01/31/16		
	• Implement Issue Management Resolution and DQ tools	07/01/15	12/31/16		Omole
	– Work with IT to implement Issue Management Resolution (IMR) tool	07/01/15	05/31/16		
	– Define operational requirements for DQ tools (rules repository)	09/01/15	07/31/16		
	– Work with IT to implement DQ tool (e.g., Informatica Data Quality)	08/01/15	08/31/16		
	– Consolidate existing DQ controls in the Data Quality tool (e.g., Informatica Data Quality)	10/01/15	12/31/16		

1 Finish dates indicate IT readiness

Data & IT project plan (4/6)

- • Deliverables
- – Milestones under the deliverable
- ✓ Completed

Sub-workstream	Deliverables / milestones	Start	Finish[1]	Owner
Effective data governance and data quality program (2 of 3)	• Build SHUSA Metadata Capabilities (Dictionary, glossary, and lineage)	04/01/15	10/31/16	Flanagan
	– Define criteria and process to identify Key Data Elements (KDEs)	04/01/15	09/30/15	
	– Work with IT to implement metadata tool (e.g., IBM Infosphere)	04/01/15	07/31/16	
	– Enable integrated data lineage for SHUSA and entities (SBNA + SCUSA)	11/01/15	10/31/16	
	• Establish a comprehensive data control framework	07/01/15	12/31/15	Omole
	– Define taxonomy of data quality controls (including controls at sources and reconciliations)	07/01/15	12/31/15	
	– Define sequence of CCAR schedules to roll out data controls	07/01/15	12/31/15	
	• Build and automate data controls	07/01/15	12/31/16	Omole
	– Build controls for reconciliation of accounting data (incl. source systems, golden sources and reports)	07/01/15	12/31/15	
	– Select and implement tool to automate documentation of data lineage and controls	01/01/16	06/30/16	
	– Assess need for additional tools (e.g., automated data reconciliation tool)	07/01/16	12/31/16	
	• Execute SHUSA data management wave 1 (Priority data domains required for CCAR - ~150+ Key Data Elements)	06/22/15	03/15/17	Flanagan Omole
	– Work with business SMEs to define domains in scope	06/22/15	07/31/15	
	– Work with business SMEs to identify Key Data Elements for domains, prioritize & approve	06/30/15	07/31/15	
	– Work with business SMEs to document lineage	06/30/15	10/31/16	
	– Work with business SMEs to define data quality rules around Key Data Elements	07/25/15	10/31/16	
	– Build and execute data quality rules	09/01/15	10/31/16	
	– Log defects and issues	09/01/15	10/31/16	
	– Generate DQ dashboards	01/05/16	10/31/16	
	– Work with business/technical SMEs to prioritize & build remediation plans	12/01/15	11/30/16	
	– Work with business/technical SMEs to initiate respective remediation tasks/plans	12/15/15	03/15/17	
	– Work with business/technical SMEs to define and enhance control models	09/01/15	02/28/17	

1 Finish dates indicate IT readiness

Data & IT project plan (5/6)

- Deliverables
- – Milestones under the deliverable
- ✓ Completed

Sub-workstream	Deliverables / milestones	Start	Finish[1]	Owner
Effective data governance and data quality program (3 of 3)	• Execute SHUSA data management wave 2 (based on priority) – *Similar tasks as SHUSA data management wave 1*	08/15/16	08/15/17	Flanagan / Omole
	• Execute SHUSA data management wave 3 (based on priority) – *Similar tasks as SHUSA data management wave 1*	09/30/17	09/30/18	Flanagan / Omole
	• Execute SBNA data management wave 1 (based on priority) – *Similar tasks as SHUSA data management wave 1*	01/01/15	08/30/15	Caldera / Omole
	• Execute SBNA data management wave 2 (based on priority) – *Similar tasks as SHUSA data management wave 1*	05/11/15	12/31/15	Caldera / Omole
	• Execute SBNA data management wave 3 (based on priority) – *Similar tasks as SHUSA data management wave 1*	02/01/16	09/30/16	Caldera / Omole
	• Execute SBNA data management wave 4 (based on priority) – *Similar tasks as SHUSA data management wave 1*	11/01/16	03/31/17	Caldera / Omole
	• Execute SCUSA data management Pilot waves 1-3 (Without formal tooling) – *Similar tasks as SHUSA data management wave 1*	02/09/15	05/25/15 ✓	Bhaskaran / Omole
	• Execute SCUSA data management wave 1 (With tools) – *Similar tasks as SHUSA data management wave 1*	04/15/15	12/31/16	Bhaskaran / Omole
	• Expand scope of data management to remaining legal entities (PR, Miami, SIS) – Identify additional resource requirements – Roll out data management program in PR – Roll out data management program in Miami – Roll out data management program in SIS	04/01/16 04/01/16 07/01/16 07/01/16 07/01/16	12/31/17 06/30/16 12/31/17 12/31/17 12/31/17	Flanagan / Omole / other LE CDOs

1 Finish dates indicate IT readiness

Data & IT project plan (6/6)

• Deliverables
– Milestones under the deliverable
✓ Completed

Sub-workstream	Deliverables / milestones	Start	Finish[1]	Owner
Data delivery	• Create "data clearinghouse" to drive a repeatable process for gathering functional data requirements	07/01/15	06/30/17	Flanagan
	– Create a "data clearinghouse" team under the SHUSA CDO as a T&O single point to lead data sourcing efforts	07/01/15	02/01/16	
	– Create a data sourcing plan by prioritizing the user data needs (e.g., CCAR models and schedules, risk identification, regulatory reports, external reference data)	07/15/15	04/30/16	
	– Roll out for other Legal Entities (PR, NY, Miami)	01/01/16	06/30/17	
	• Document data lineage and controls for critical manual processes (e.g., FRY-14A)	08/01/15	12/31/17	Flanagan / Omole
	– Revise approach to document data lineage	10/01/15	11/30/15	
	– Revise approach to document data controls	08/01/15	03/01/16	
	– Work with business to prioritize CCAR FRY-14A schedules based on materiality	08/01/15	09/01/15	
	– Work with business to document data lineage for priority schedules	11/01/15	03/31/16	
	– Work with business to document data controls for priority schedules	09/01/15	03/31/16	
	– Work with business to test completeness of the data controls, and deploy additional controls as needed for priority schedules	01/01/16	04/30/17	
	– Work with business to document data lineage for remaining schedules	12/01/15	10/30/16	
	– Work with business to document data controls for remaining schedules	01/01/16	10/30/16	
	– Work with business to test completeness of the data controls, and deploy additional controls as needed for remaining schedules	04/30/16	02/28/17	
	– Implement processes to ensure sustainability of the documentation	09/01/16	12/31/17	
	• Implement SHUSA privileged access management – access attestation & certification solution Phase 1	06/17/15	12/31/15	Cignarella / Omole
	– Define and document the access attestation and certification program	06/17/15	10/01/15	
	– Define and document the access attestation and certification standard operating procedure document	06/17/15	11/02/15	
	– Develop environment for SHUSA Access Attestation & Certification solution	06/17/15	12/31/15	
	– SHUSA Access request portal and separation of duties/termination workflow documented	07/01/15	12/31/15	
	– Create model for centralized access management team for SHUSA/SBNA applications	07/02/15	10/30/15	
	– Develop centralized access management team	07/15/15	10/30/15	
	• Develop process and reporting for technology incidents, findings and remediation plans	06/01/15	03/31/16	Cignarella
	• Implement SHUSA/SBNA/SCUSA Data Security protection including malware, antivirus, code review and configuration management	07/31/15	12/31/17	Cignarella
	• Implement SHUSA/SBNA/SCUSA Detection activities – Data loss prevention, security information and event monitoring and threat intelligence	08/10/15	12/31/17	Cignarella

1 Finish dates indicate IT readiness

Summary plans

Risk Transformation

Model Development

Model Risk Management

Operational Risk

Finance Transformation

Data and IT

CCAR / DFAST

IHC

ELS (included in Finance Transformation)

CCAR/ DFAST - Summary

Summary of FRB feedback

- Immediately strengthen capital planning leadership and staff and conduct a comprehensive skills and staffing assessment and develop a hiring strategy
- Develop a comprehensive and detailed multi-year project plan to implement an effective capital planning process
- Immediately improve documentation of the capital plan and supporting materials
- Ensure an effective internal controls framework is put into place for the E2E capital planning process
- Senior management is required to develop robust processes for designing and selecting scenarios for enterprise-wide scenario analysis
- Develop a systematic, comprehensive, and repeatable process to identify weaknesses and deficiencies with the capital planning process

Sub-workstreams in CCAR

A. **Scenario Generation:** Generating idiosyncratic scenarios, including macroeconomic variable forecasts, based on SHUSA's specific risk profile and vulnerabilities
B. **End-to-end process and controls:** Formalized process for aggregating financial modeling and stress testing outcomes, including building financial reports with clear roles and responsibilities, processes, controls and personnel
C. **Governance and effective challenge:** Structured and documented process for R&C of all relevant elements of capital planning and stress-testing processes, enabling flow of information and feedback from all levels of SHUSA
D. **Documentation:** Defined structure and timeline for doc preparation, including the creation of templates, assignment of owners and multiple layers of review
E. **Capital assessment:** Analysis of capital and dividend payout levels to assess capital adequacy to meet regulatory and internal targets and limits across potential scenarios, including consideration of capital buffers

Potential key risks

- Significant dependencies on core execution elements across other CART workstreams, e.g., risk identification results, validated CCAR/ DFAST models, data quality related efforts across different workstreams
- Ability to strengthen aggregation capabilities within tight timelines
- Challenges in scaling up internal resources with the right profiles within required timelines
- Dependency on external resources, consultants and vendors to execute core end-to-end processes

Key deliverables	Due by
Documentation standards and templates for each category to ensure consistent inclusion of relevant information defined	08/31/15
Inventory of spreadsheets & tools used in the CCAR/ DFAST process	09/28/15
Updated SHUSA-wide Review & Challenge Framework	09/30/15
Procedure to measure the uncertainty from Model, Data & Process	09/30/15
Enhancement of capital plan submission	11/11/15
Policies and procedures governing the self-assessment process	11/30/15
Education sessions for the Board & Sr. Management to improve their ability to more effectively challenge outputs of CCAR/ DFAST	12/10/15
Policies & procedures for scenario design and selection process	12/31/15
E2E Process Documentation	12/31/15
Enhance CCAR/ DFAST Internal Control framework and methodology	12/31/15

Key dependencies

- **Risk transformation:** Material Risk Program outputs
- **Model Development:**
  - CCAR/ DFAST Model Landscape & Roadmap, models for implementation
  - Model development documentation
- **Model Risk Management:** Model validation documentation
- **Operational Risk:**
  - Scenario analysis for relevant entities
  - Operational loss forecasting methodology
- **Finance:**
  - Capital management plan
  - As of and history for Y-14A
  - Strategic plan and SAS forecasting engine
  - Refinement of capital planning process governance

CCAR/ DFAST project plan (1/5)

• Deliverables
– Milestones under the deliverable
✓ Completed

Sub-workstream	Deliverables / milestones	Start	Finish	Owner
End-to-end internal controls	• Inventory of spreadsheets & other similar calculation tools used in the CCAR/ DFAST process	08/03/15	09/28/15	Watson
	– Compile list of all critical spreadsheets used in each CCAR/ DFAST process	08/03/15	08/28/15	
	– Review and confirm use of each spreadsheet with workstream owners	08/31/15	09/16/15	
	– Provide Internal Controls with Inventory of Critical CCAR/ DFAST Spreadsheets	09/17/15	09/28/15	
	• Change management process to oversee the end-to-end process to identify and document changes and required internal controls	09/01/15	12/31/15	Watson
	– Identify Key Stakeholders and define roles and responsibilities	09/01/15	11/02/15	
	– Develop change management process flow and draft procedure	09/29/15	11/18/15	
	– Approve Change Management Procedures	11/19/15	12/31/15	
	• Enhance CCAR/ DFAST Internal Control framework and methodology[1]	07/13/15	12/31/15	Munoz
	– Establish project foundation, including communication plan, scope, stakeholders	07/13/15	07/23/15	
	– Obtain/review documentation, socialize and confirm current state findings with stakeholders	07/15/15	08/21/15	
	– Review and confirm outline for Internal Controls framework and reporting requirements	08/03/15	08/21/15	
	– Develop minimum standards for CCAR/ DFAST IC framework	08/05/15	09/04/15	
	– Recommend stakeholder reports/reporting metrics/dashboards	08/10/15	09/04/15	
	– Recommend testing methodology enhancements	08/17/15	09/04/15	
	– Conduct stakeholder working sessions to obtain feedback and confirm enhancements/ recommendations	08/26/15	09/11/15	
	– Finalize internal controls framework documentation, testing methodology enhancements and reporting metrics	08/31/15	09/18/15	
	– Senior Management review and implementation	09/19/15	12/31/15	
End-to-end process	• Centralized oversight and execution of CCAR/ DFAST cycle run process	06/02/15	08/31/15	Watson
	– Define Operating Model	06/02/15	06/11/15 ✓	
	– Define roles & responsibilities (including appropriate reporting lines)	06/02/15	07/30/15	
	– Define organization structure and resourcing needs (including staffing plan)	06/22/15	08/11/15	
	– Schedule periodic assessment of management and remediation progress to SHUSA board by external advisors	08/12/15	08/31/15	
	• E2E Process Documentation	08/03/15	12/31/15	Watson
	– Design sub process flows	08/03/15	09/30/15	
	– New Procedures documentation for the E2E process	09/24/15	11/11/15	
	– Test and verify new procedures	11/12/15	12/16/15	
	– Enhance procedures	12/17/15	12/23/15	
	– Approve new procedures	12/24/15	12/31/15	
	– Draft internal control narratives	12/03/15	12/31/15	

1. Execution will be performed by the Finance Transformation workstream

CCAR/ DFAST project plan (2/5)

- • Deliverables
- – Milestones under the deliverable
- ✓ Completed

Sub-workstream	Deliverables / milestones	Start	Finish	Owner
Governance	• Policies and procedures governing the management self-assessment process	08/17/15	11/30/15	Watson
	– Develop a methodology to identify and account for capital planning weaknesses	08/17/15	09/28/15	
	– Design process for implementing methodology	09/29/15	11/09/15	
	– Define procedures for methodology implementation	11/10/15	11/30/15	
	• Weakness identification policy, procedures, and inventory	06/01/15	11/30/15	Kordab
	– Draft policy and procedures, and design inventory for weakness identification	06/01/15	09/04/15	
	– Governance Committee review of Weakness ID methodology	07/09/15	10/16/15	
	– Final Governance Committee approval Weakness ID Methodology	10/19/15	11/30/15	
	• Updated SHUSA-wide Review & Challenge Framework	06/29/15	09/30/15	Watson
	– Develop complete gap assessment of R&C framework	06/29/15	07/17/15	
	– Develop standardized R&C templates	07/13/15	08/07/15	
	– Develop a documentation guidance detailing supporting analysis, narrative and risks to accompany results (including board package) e.g., test for directional consistency in the application of macro scenarios, develop guidance for non-model	07/24/15	08/14/15	
	– Develop a Review and Challenge calendar aligned with CCAR/ DFAST end-to-end process (including sessions for Risk Committee and Audit committee)	08/03/15	09/30/15	
	– Create a Review and Challenge tracking process	08/03/15	08/14/15	
	– Define implementation plan	08/18/15	08/28/15	
	• Education sessions for the Board & Sr. Management to improve their ability to more effectively challenge outputs of the CCAR/ DFAST process designed & rolled out	06/01/15	12/10/15	Watson
	– Develop board education calendar (including categories, and time frames for R&C sessions)	06/01/15	06/19/15 ✓	
	– Develop education/training material and conduct sessions for foundational risk management	06/22/15	07/24/15	
	– Develop education/training material and conduct session 2	07/13/15	07/30/15	
	– Develop education/training material and conduct session 3	08/10/15	08/27/15	
	– Develop education/training material and conduct session 4	09/07/15	09/24/15	
	– Develop education/training material and conduct session 5	10/05/15	10/22/15	
	– Develop education/training material and conduct session 6	11/23/15	12/10/15	

CCAR/ DFAST project plan (3/5)

- • Deliverables
- – Milestones under the deliverable
- ✓ Completed

Sub-workstream	Deliverables / milestones	Start	Finish	Owner
Capital Assessment	• Approved procedure to measure the uncertainty from Model, Data & Process Weaknesses	06/01/15	09/30/15	Kordab
	– Draft uncertainty quantification approach and methodology for uncertainty from data & process weaknesses	06/01/15	08/14/15	
	– Define quantification approach and methodology for measuring uncertainty resulting from capital planning and process weaknesses	08/15/15	09/30/15	
	• Develop process to ensure appropriate analysis and documentation supporting rationale of uncertainty add-ons related to process weaknesses	06/08/15	01/15/16	Kordab
	– Staff a team with appropriate SME Knowledge to develop Buffers	06/08/15	08/31/15	
	– Develop capital overlays methodology for uncertainties	09/01/15	11/30/15	
	– Develop standards and templates for documenting overlays	10/16/15	11/13/15	
	– Develop process and procedures for applying uncertainty overlays	12/01/15	01/15/16	
	• Developed repeatable approach to sensitivity analysis that covers end-to-end capital planning process	01/04/16	06/30/16	Kordab
	– Define scope of sensitivity analysis	01/04/16	02/16/16	
	– Draft methodology for sensitivity analysis approach	02/17/16	04/04/16	
	– Develop process to challenge sensitivity analysis results and incorporate in R&C	04/05/16	05/02/16	
	– Develop documentation templates and defined standards for sensitivity analysis documentation	05/03/16	05/30/16	
	– Develop governance framework for sensitivity analysis methodology	05/31/16	06/30/16	

CCAR/ DFAST project plan (4/5)

• Deliverables
– Milestones under the deliverable
✓ Completed

Sub-workstream	Deliverables / milestones	Start	Finish	Owner
Documentation	• Documentation landscape and inventory of key document categories	06/29/15	07/31/15	Watson
	– Draft documentation framework defining policies, procedures and standards	06/29/15	07/16/15	
	– Develop inventory of required capital planning documentation	07/17/15	07/24/15	
	– Syndicate feasibility of landscape with stakeholders	07/24/15	07/31/15	
	• Documentation standards and templates for each category to ensure consistent inclusion of relevant information defined	06/29/15	08/31/15	Watson
	– Develop documentation templates for each document category (e.g., policies, results)	06/29/15	08/10/15	
	– Establish standards for implementation plan documentation	07/17/15	08/24/15	
	– Syndicate standards and templates with stakeholder, regulatory experts	08/24/15	08/31/15	
	• Standardized organization scheme for documents and quality assurance program (e.g., sign-offs from document owners) to ensure the consistent application of documentation standards	06/29/15	10/30/15	Watson
	– Establish documentation collection, review and version control process	06/29/15	07/29/15	
	– Develop CCAR/ DFAST final submission documentation structure	07/30/15	08/26/15	
	– Develop CCAR/ DFAST documentation aggregation plan, including ownership assignments and sign-off checklist	08/27/15	09/21/15	
	– Initiate draft work on the chassis of the submission and “standard” response elements	08/27/15	10/15/15	
	– Syndicate with stakeholder, regulatory experts and approve final submission documentation	10/15/15	10/30/15	
	• Capital Plan Submission Enhanced	06/30/15	11/11/15	Watson
	– Review 2014 Capital Plan	06/30/15	07/27/15	
	– Develop 2015 Outline of Capital Plan framework	07/10/15	08/18/15	
	– Enhance methodology and results reporting process for Capital Plan	08/19/15	10/20/15	
	– Syndicate and approve Capital Plan with stakeholders, regulatory experts for submission	10/21/15	11/11/15	
Scenario Generation	• Policies & procedures for the scenario design and scenario selection process	06/29/15	09/30/15	Barris
	– Define key stakeholders along with assignment of relevant roles and responsibilities	06/29/15	07/17/15	
	– Define key inputs and outputs for the scenario generation processes (including output of the material risk program)	07/20/15	08/14/15	
	– Develop scenario generation process flow, procedures and controls framework	08/17/15	09/11/15	
	– Syndicate with stakeholders, regulatory experts and approve at relevant committees	09/12/15	09/30/15	
	• Scenario Generation Process Enhancements	06/29/15	12/31/15	Barris
	– Enhance scenario benchmark tool to provide detailed results from process	08/31/15	12/31/15	
	– Establish communication plan, scope and stakeholders, ensuring involvement of SHUSA Capital Management team in the risk identification process	06/29/15	07/17/15	
	– Engage an experienced economist to independently review macroeconomic scenarios	08/10/15	10/22/15	

CCAR/ DFAST project plan (5/5)

- **Deliverables**
- – **Milestones under the deliverable**
- ✓ **Completed**

Sub-workstream	Deliverables / milestones	Start	Finish	Owner
CCAR/ DFAST Data Quality	• Define CCAR/ DFAST Data requirements for CCAR 2016 Forecasting Process	06/01/15	07/31/15	Morillo
	– Gather CCAR/ DFAST Data requirements for SAS Forecast Engine (as of Data Set)	06/01/15	06/30/15 ✓	
	– Gather CCAR/ DFAST Data requirements for Loss Modeling (Modeling Data set)	06/20/15	07/31/15	
	– Gather CCAR/ DFAST Data requirement for PPNR Modeling (Modeling Data set)	06/20/15	07/31/15	
	• Develop data glossary for CCAR/ DFAST 2016 Forecasting Process	07/20/15	09/30/15	Morillo
	– Finalized Business Data Glossary for 14A Model Data set	07/20/15	08/31/15	
	– Finalized Business Data Glossary for as of data set	07/20/15	09/30/15	
	• Provide controlled data access for modeling and as of data set for CCAR/ DFAST 2016 Forecasting Process	06/01/15	08/31/15	Flanagan
	– Develop SAS Cloud / Grid data environment	06/01/15	07/31/15	
	– Load CCAR modeling data requirements into SAS environment	07/31/15	08/31/15	
	– Load CCAR as of data set into SAS environment	06/30/15	07/31/15	
	• Generate Data reconciliation process and reconcile as of and modeling data sets	09/01/15	12/31/15	Morillo
	• CCAR 14A Data Tagging	06/01/15	10/31/15	Morillo
	– Current model segmentation / Data Mart Tagging	06/01/15	08/15/15	
	– SHUSA Planning Tree	07/15/15	08/31/15	
	– Y-14A segments	07/15/15	08/31/15	
	– Revised model segmentation / Data Mart Tagging	08/31/15	10/31/15	
	• Generate Data Quality analysis for CCAR/ DFAST 2016 Data Set (Completed Data Dictionary for Prioritized KDE's)	06/29/15	12/31/15	Flanagan / Morillo
	– Data Mapping & Data Quality Rules	06/29/15	08/31/15	
	– Data Quality Analysis	08/31/15	10/31/15	
	– Data Quality Report	10/31/15	12/31/15	
	– CCAR Data Dictionary – Prioritized KDE's	12/31/15	12/31/15	

Summary plans

Risk Transformation

Model Development

Model Risk Management

Operational Risk

Finance Transformation

Data and IT

CCAR / DFAST

IHC

ELS (included in Finance Transformation)

IHC - Summary

Summary of FRB feedback

- Establish corporate governance guidelines that formally document and clarify the responsibilities of the board and committees thereof and board-appointed management committees
- Develop policy approval framework and Board reporting framework
- Conduct assessment and gap analysis of Board and management resources needed to implement and maintain appropriate oversight of risk taking and risk management activities
- Produce accurate aggregate financial regulatory reporting at the IHC and the combined U.S. operations, including an appropriate control framework that includes validation and reconciliation
- Implement IT Infrastructure and systems necessary to produce aggregated reporting, including centralized data warehouses for on-and-off balance sheet items and an appropriate control framework
- Make consolidation, netting, and accounting adjustments necessary to produce consolidated reporting

Sub-workstreams in IHC

A. **Corporate Governance and Oversight:** Development of overarching Governance and Oversight Framework including committee structures, charters, policy and reporting framework; gap analysis; execution across functions
B. **Legal:** Analysis and management of all the legal aspects of IHC creation and transfer of legal entities
C. **Tax Structure:** Analysis of the tax impact of IHC creation, entity transfer and residual planning

Risk, Finance and Data & IT components of the plan are addressed previously

Potential key risks

- Dependency on the timely delivery of technology capabilities
- Limited data availability and data quality across enterprise
- Management of dependencies spanning multiple workstreams
- High dependency on external resources, consultants and vendors
- Tight timeline to complete talent sourcing
- Uncertainty about future staffing needs

Key deliverables (excluding Risk, Finance and Data & IT deliverables required for IHC, addressed previously)	**Due by**
Corporate Governance and Oversight	
▪ Draft overarching Governance and Oversight Framework document for SHUSA; syndicate and finalize	11/30/15
▪ Conduct gap analysis against the overarching Governance and Oversight Framework, and develop multi-year execution plans	01/31/16
Legal	
▪ Perform transfer of entities (legal transfer of ownership)	06/30/16
Tax structure	
▪ Refine analysis of tax impact of IHC	02/29/16
▪ Residual Planning - attribute utilization, elimination of entities within current SHUSA structure, built in loss utilization, off-shore earnings repatriation, etc.	02/29/16
▪ Entity Valuation - Implementation / Transfer Issues	02/29/16

Key dependencies

- **Finance**
  - Regulatory Reporting
  - Capital Planning: Foundational Risk Management; Loss estimation methodologies; Resource estimation method.; Capital adequacy assessment; Capital policy and planning; Robust internal controls; Governance
  - ELS/Treasury: Cash Flows (2052(a)/(b)); Contingency Funding Plan; Buffers at CUSO and Branch; Governance, Policies, Procedures; Independent Review
- **Risk transformation:** Overarching Governance and Oversight Framework; Creation of Risk Committee; Appointment of U.S. CRO; Creation of Risk ID; Enhanced Risk Policies & Procedures; Creation of RAS; Completion of RDW
- **Data & IT**: Delivery of technological capabilities needed by finance and risk transformation workstreams

IHC project plan (1/4)

• **Deliverables**
– **Milestones under the deliverable**
✓ **Completed**

Sub-workstream	Deliverables / milestones	Start	Finish	Owner
Corporate Governance and Oversight	• Draft overarching Governance and Oversight Framework Document for SHUSA[1]; syndicate and finalize	07/15/15	11/30/15	Gunn
	– Establish core principles for governance and oversight of SHUSA and its subsidiaries, including role of and interactions with the holding company	07/15/15	07/31/15	
	– Define target state committee structure including Board and Management committees	07/15/15	08/15/15	
	– Articulate committee compositions, roles, decision rights, delegation of authority and distribution of responsibilities between the Group, SHUSA and its subsidiaries	08/01/15	09/30/15	
	– Document the overarching organization structure of SHUSA and its subsidiaries including reporting lines	08/01/15	09/30/15	
	– Develop policy framework, establish overall policies including guidelines for approval of policies	07/15/15	09/30/15	
	– Create overarching reporting framework for the Board and Management for SHUSA and its subsidiaries	10/01/15	10/31/15	
	– Syndicate Governance and Oversight Framework document with key stakeholders across SHUSA, the legal entities and the Corporation, incorporate refinements and finalize	11/01/15	11/30/15	
	• Conduct gap analysis against the overarching Governance and Oversight Framework document, identify gaps and develop multi-year execution plans	12/01/15	01/31/16	Gunn
	– Conduct gap analysis against the target state governance and committee structure, organization and roles, decision rights, delegation of responsibilities, policy framework and reporting	12/01/15	01/15/16	
	– Establish comprehensive implementation plans to address these gaps over a multi-year period	01/03/16	01/31/16	
	• Execute against multi-year plan (*multiyear plan comprises the plans across each of the workstreams – Risk Transformation, Model Risk, Model Risk Management, Finance Transformation and Data/IT Transformation)*	02/01/16	Ongoing	Gunn / Plush / Somoza
Legal	• Entities have been identified in the IHC plan submission (analysis to determine if they will be liquidated, sold, or contributed to SHUSA)	07/15/15	11/15/15	Pfirrman
	• Perform transfer of entities through Davis Polk plan (legal transfer of ownership)[2]	07/15/15	06/30/16	Pfirrman
	– Services and Promotions Delaware Corporation & Services and Promotions Miami LLC contributed to BSI	07/15/15	06/30/16	
	– Banco Santander International transfer of shares to SHUSA	07/15/15	06/30/16	
	– Santander Global Property, U.S.A., Inc. liquidation	07/15/15	06/30/16	
	– Santander Investment Securities, Inc. shares contributed to SHUSA	07/15/15	06/30/16	
	– Santander Asset Management USA LLC liquidation	07/15/15	06/30/16	

1 SHUSA to be designated as the IHC going forward
2 The tasks associated with the transfer of entities take into consideration 8-12 months for regulators to respond

IHC project plan (2/4)

- Deliverables
– Milestones under the deliverable
✓ Completed

Sub-workstream	Deliverables / milestones	Start	Finish	Owner
Legal	• Perform transfer of entities through Davis Polk plan (legal transfer of ownership)[1]	07/15/15	06/30/16	Pfirrman
	– Abbey National North America LLC liquidation	09/01/15	06/30/16	
	– Abbey National Capital LPI and Abbey National Capital Trust I contributed to SHUSA	07/15/15	06/30/16	
	– Totta & Acores Inc. liquidation	07/15/15	06/30/16	
	– BST International Bank, Inc., liquidation	07/15/15	06/30/16	
	– HSH AIV 4 Trust and HSH Delaware LP contributed to SHUSA	07/15/15	06/30/16	
	– Texas Wind I LLC and Texas Wind II LLC, liquidation	07/15/15	06/30/16	
	– Santander Overseas Bank, Inc. sell to BSSA	07/15/15	06/30/16	
	– Santander Bancorp and subsidiaries, reverse merger into BSPR	07/15/15	06/30/16	
	– Banco Santander Puerto Rico and Santander Insurance Agency (former Santander Bancorp subsidiaries) shares contributed to SHUSA	07/15/15	06/30/16	
	– Santander Securities LLC (former Santander Bancorp subsidiary) shares contributed to SHUSA	07/15/15	06/30/16	
	– Santander Financial Services, Inc. shares contributed to SHUSA by BSSA	07/15/15	06/30/16	
	– Santander Asset Management, LLC shares contributed to SHUSA	07/15/15	06/30/16	
	• Prepare contingency plans in case base structures are not permitted	09/15/15	11/15/15	Pfirrman
	– Prepare alternative structure for submission to the FRB	09/15/15	11/01/15	
	– Review alternative structure and obtain approval if necessary	11/02/15	11/08/15	
	– Completed and approved alternative structure	11/09/15	11/15/15	
	• Review regulatory models of U.S. subsidiaries	09/15/15	11/15/15	Pfirrman
	– Conduct gap analysis of regulatory models of the FBO's subsidiaries in the US against BHC	09/15/15	11/01/15	
	– Identify gaps from analysis	11/02/15	11/08/15	
	– Determine which gaps require rectification	11/09/15	11/15/15	
	– Completed Rectification of Gaps	11/15/15	11/15/15	
	• Map U.S. subsidiary business models for integration assessment	09/15/15	11/15/15	Pfirrman
Tax Structure	• Refine Analysis of Tax Impact of IHC - Transfer Pricing	09/01/15	02/29/16	Swartz
	– Revisit existing transfer pricing policies in the U.S. group	09/01/15	02/29/16	
	– Develop new transfer pricing policies, complete studies needed with respect to implementation	09/01/15	02/29/16	
	• Refine Analysis of Tax Impact of IHC - State / Local / Non-Income Taxes	07/15/15	02/29/16	Swartz
	– Determine ETR for future	07/15/15	02/29/16	
	– Ongoing tax compliance - state and local	07/15/15	02/29/16	
	– Determine short period return filing requirements - state	09/01/15	02/29/16	
	– Pre-implementation planning and analysis - state and local	09/01/15	01/30/16	
	– Meeting to discuss state-by-state tax rate matrix update	09/06/15	02/29/16	

1 The tasks associated with the transfer of entities take into consideration 8-12 months for regulators to respond

IHC project plan (3/4)

- • Deliverables
- – Milestones under the deliverable
- ✓ Completed

Sub-workstream	Deliverables / milestones	Start	Finish	Owner
Tax Structure	• Entity Transfer Issues / Support - Tax Opinions (Federal re: 351 (g) step-up) & Memoranda (documenting other federal tax consequences re: transfers); Coordinate w/ Treasury and Legal	09/01/15	02/29/16	Swartz
	– Determine tax opinions needed with respect to implementation	09/01/15	02/29/16	
	– Tax memoranda documenting intended U.S. federal income tax consequences of IHC implementation steps, including no deemed dividend treatment on entity transfers to SHUSA, eligibility for treaty benefits post-restructuring and survival of tax attributes	09/01/15	02/29/16	
	– Coordination with Santander Treasury department	09/01/15	02/29/16	
	– Coordination with Santander Legal department	09/01/15	02/29/16	
	– Tax review of legal documents drafted in connection with implementation of steps in tax implementation plan	09/01/15	02/29/16	
	• Residual Planning - attribute utilization, elimination of entities within current SHUSA structure, built in loss utilization, off-shore earnings repatriation, etc.	09/01/15	02/29/16	Swartz
	– Review pre-IHC implementation entity dissolution and efficiency planning	09/01/15	02/29/16	
	– Built-in-loss utilization planning	09/01/15	02/29/16	
	– Attribute (e.g., FTCs, NOLs (SRLY), GBCs) planning	09/01/15	02/29/16	
	– High-level overview of FATCA implications	09/01/15	02/29/16	
	– Rewrite Intercompany Tax Sharing Agreements (federal and state)	09/01/15	02/29/16	
	– Annual Subpart F Analysis with respect to Puerto Rican entities under SHUSA, as well as section 956 analysis, including review of intercompany arrangements, new pledges/guarantees, etc.	09/01/15	02/29/16	
	• Entity Valuation - Implementation / Transfer Issues	07/15/15	02/29/16	Swartz
	– Valuations for [all transferred entities]	09/01/15	02/29/16	
	– Valuation for preferred section 351(g) stock	07/15/15	02/29/16	
	• Foreign Investment in Real Property Tax Act (FIRPTA) Analysis	09/01/15	12/30/16	Swartz
	– Obtain entity by entity quarterly balance sheets, income statements and cash flow statements from July 2011 to June 2015	09/01/15	02/29/16	
	– Obtain entity by entity quarterly balance sheets, income statements and cash flow statements from present to June 2016	07/01/16	09/30/16	
	– Obtain detailed fixed asset listing	07/01/16	09/30/16	
	– Obtain 2013, 2014, 2015 and 2016 tax returns	07/01/16	09/30/16	
	– Prepare required non-USRPHC FIRPTA certificates for U.S. transferred entities	07/01/16	12/30/16	
	– Confirm facts with respect to Miami FIRPTA certificate status.	07/01/16	09/30/16	

Note: The detailed plan includes underlying tasks with intermediary milestones for each deliverable

IHC project plan (4/4)

- • Deliverables
- – Milestones under the deliverable
- ✓ Completed

Sub-workstream	Deliverables / milestones	Start	Finish	Owner
Tax Structure	• Legislative rule monitoring, changes to plan, legal document review, preferred stock terms/design	09/01/15	06/30/16	Swartz
	– Communicate impact of Puerto Rico tax law changes on proposed structure and attribute utilization.	09/01/15	02/29/16	
	– Review and update tax implementation step plan and federal tax considerations once final entity list approved by FRB	09/01/15	02/29/16	
	– Monitor and update, as needed, for legislative changes which may impact steps or structure	09/01/15	06/30/16	
	– Monitor impact of business and regulatory developments on tax structure	09/01/15	02/29/16	
	– Identify required federal income tax short-period returns	09/01/15	02/29/16	
	• E&P and Tax Basis Studies	11/19/15	02/11/16	Swartz
	– E&P studies [for the Puerto Rican entities and SHUSA or others, as applicable]	11/19/15	02/11/16	
	– Tax basis studies for USRPHC entities transferred	11/19/15	02/11/16	
	• Transaction Costs - Refine Analysis of Tax Impact of IHC	09/01/15	02/29/16	Swartz
	– Transaction cost analysis to determine deductibility of expenses incurred in connection with IHC implementation in Spain, the U.S. and other locations	09/01/15	02/29/16	
	– Feasibility phase	09/01/15	02/29/16	
	– Implementation phase	09/01/15	02/29/16	

Summary plans

Risk Transformation

Model Development

Model Risk Management

Operational Risk

Finance Transformation

Data and IT

CCAR / DFAST

IHC

ELS (included in Finance Transformation)