


# Memorandum



**Date:** September 21, 2010

**To:** Charles Anderson  
Commission Auditor

**From:** Jennifer Glazer-Moon, Director   
Office of Strategic Business Management

**Subject:** FY 2010-11 Span of Control Analysis

This memorandum has been prepared to provide additional and correcting information related to your September 13, 2010 "FY 10-11 Span of Control Analysis" memorandum. When preparing your report, OCA conducted an initial review of departmental staffing charts and identified positions as "supervisory" based on job titles and descriptions. The Office of Strategic Business Management (OSBM) and/or departments were requested to confirm whether the position titles identified by OCA had "supervisory responsibilities." The ratio of supervisors to non-supervisory employees was then calculated and presented. The analysis contained a number of errors and omissions; consequently, additional information regarding span of control is provided in this memorandum.

OSBM noted a number of discrepancies between the information reportedly received by OCA and records of the information actually provided. In some cases, the number of supervisory positions reported by OCA was incorrect. Additionally, departmental comments regarding important factors that influencing their span of control were not included in the OCA report. Although the OCA analysis states that all information requests were sent through OSBM, this was not the case for all departments. Attachment 1 summarizes the information provided by OSBM.

In order to provide greater context to a span of control, OSBM conducted a thorough review of relevant literature regarding span of control in public sector organizations; a summary of the findings is included in Attachment 2. OSBM's review found that the most objective and commonly used definition of a supervisor is an employee who signs another employee's performance appraisal. It should be noted that OCA did not provide departments with a definition of supervisor, and in reviewing the departmental responses it is evident that departments defined the term differently. For example, the Office of Grants Coordination defined supervisor as an employee having hire/fire authority. In contrast, the Elections Department identified a number of employees who only occasionally supervise seasonal employees during elections.

Since there is no central database or other tracking mechanism that identifies the employees that sign performance appraisals, OSBM requested this information from five small departments; the results are shown in the table below. Column A shows the number of supervisors identified by OCA in its review of job descriptions and titles. Column B is the number of supervisors reported by OCA based on input provided by OSBM. Column C shows the number of employees who sign at least one other employee's performance appraisal. In only one department, the Office of Emergency Management, the number of supervisors remained consistent using the various methodologies.

DEPARTMENT	(A) Number of Supervisory Positions Per OCA Review of Titles and Job Descriptions	(B) Number of Supervisory Positions Per OCA Report of Information Provided by Departments	(C) Number of Employees Who Complete Performance Appraisal as "Rater"	Comments
Audit and Management Services	16	21	8	The number in column B is incorrect. OSBM reported a total of 20 supervisory positions to OCA.
Emergency Management & Homeland Security	4	4	4	An additional 16 employees take on supervisory responsibilities (for a large number of volunteers / County employees) during an activation
Grants Coordination	12	2	9	OGC initially reported only two supervisors: the Director and the Assistant Director (they are the final evaluation reviewers and the only ones that can hire and lay-off personnel.)
Medical Examiner	14	3	11	The number in Column B is incorrect. The Medical Examiner initially reported a total of 4 supervisory, senior management positions in its response to OCA. The department also indicated in its response that several additional employees are "working supervisors" who evaluate their subordinates but also have a full caseload of work.
Strategic Business Management	14	3	7	Three Business Analyst Managers complete performance appraisals, but spend only a small portion of their time on employee supervision; the bulk of their time is spent managing complex projects or programs.

OSBM also found in its review that span of control is most commonly calculated using the following formula:

$$[\text{Average Span of Control (SOC)} = (\text{Total Employees} - 1) / \text{Total Supervisors}]$$

In contrast to the formula used by the Commission Auditor (Total Non-Supervisory Employees / Total Supervisors), this standard metric takes into account the fact that all supervisors, except for the top executive, are also supervised by another employee. The table below calculates the span of control for the five small departments, using this standard definition.

DEPARTMENT	(A) Number of Employees Who Complete Performance Appraisal as "Rater"	(B) Total Positions	(C) Span of Control [(B-1)/A]	Comments
Audit and Management Services	8	49	6.0	
Emergency Management & Homeland Security	4	20	4.8	An additional 16 employees take on supervisory responsibilities (for a large number of volunteers / County employees) during an activation
Grants Coordination	9	46	5.0	
Medical Examiner	11	69	6.2	Several employees are "working supervisors" who evaluate their subordinates but also have a full caseload of work.
Strategic Business Management	7	33	4.6	Three Business Analyst Managers complete performance appraisals, but spend only a small portion of their time on employee supervision; the bulk of their time is spent managing complex projects or programs.

OSBM reviewed a number of studies related to span of control; a full list is included in Attachment 2. In the studies examined, the recommended Span of Control ranged from six to 12 or more, while the actual average Span of Control in state and local government agencies ranged from 5 to 13, with most agencies close to six or seven.

OSBM's literature review also found that the optimal span of control in an organization is dependent on the particulars of its unique environment. A full list of factors influencing span of control is included in Attachment 2; examples include the following:

- Extent of non-supervisory activities
- Degree of risk or public scrutiny entailed in work
- Geographic dispersion of staff
- Extent of contracting out
- Multiple work shifts
- Legal / regulatory issues
- High level of professional expertise required
- Ability of classification and pay structure to accommodate non-managerial career paths and reward performance of non-supervisory employees

Many of these factors influence span of control in County departments. For example, some Specialized Units within the Miami-Dade Police Department require additional supervision due to the risk to officers and the community. In the Corrections and Rehabilitation Department, supervisors work in geographically dispersed locations and are responsible for the supervision of inmates as well as subordinates. Supervisors in the Elections and Park and Recreation Department oversee seasonal and part-time workers who are not included in the count of full-time positions. Additionally, in many departments, supervisors also have significant direct service responsibilities. In analyzing the span of control in these departments, it is important to take these criteria into consideration.

As always, we will continue to assist you in answering any questions related to the above.

c: Honorable Carlos Alvarez, Mayor  
Honorable Chairman Dennis C. Moss  
and Members, Board of County Commissioners  
George M. Burgess, County Manager  
Robert A. Cuevas, Jr., County Attorney  
Dianne Collins, Acting Director, Clerk of the Board

# Span of Control: Responses Previously Provided to the Commission Auditor and Additional Comments

DEPARTMENT	OCA Departmental Supervisory Positions Count	OSBM Departmental Supervisory Positions Count	Comments Previously Provided to OCA	Other Comments
Agenda Coordination	2	1		Span of Control request was only sent to the department. OSBM never received the request
Americans with Disabilities Act Coordination	1	1		
Animal Services Department	11	11		
Audit and Management Services	21	20		
Aviation	209	209		
Building, Neighborhood & Code Compliance	47	47		
Capital Improvements	6	6	OCI noted that one supervisor is currently outstationed for the Marlins ballpark project (not included in count)	
Citizens' Independent Transportation Trust	1	1		Span of Control request was only sent to the department. OSBM never received the request
Commission on Ethics and Public Trust	3	3		
Community Action Agency	52	52		
Community Advocacy	1	1		BCC Department effective 07/09/10
Consumer Services	19	19		Five of the 19 supervisory positions perform direct services as well as supervision
Corrections and Rehabilitation	547	527		Supervisors are responsible for overseeing inmates as well as subordinates. For example, a Wing Corporal at the Metro West Detention Center may have a supervisor to employee ratio of 1:5, but he/she is actually responsible for supervising a minimum of 5 Officers and approximately 250 inmates in the wing. Because of Officers' days off, etc. that Corporal will evaluate approximately 10 Officers. Additionally, some supervisors are responsible for inmates working at the Food Service Bureaus or performing jobs inside and outside the facilities. Moreover, Department staff also work in 11 locations and inmates are housed/staged in 9 locations that are geographically dispersed throughout Miami-Dade County. Finally, the inmates' security and administrative classification levels (e.g., juveniles, high risk, maximum/close custody, psych population, etc.) and the unique physical plant configuration of each facility may determine the supervisor/officer staff to inmate ratio. In FY 08-09, MDCR reduced the number of Administrators by 1 Assistant Director, 1 Division Chief and 2 Bureau Commanders (-\$732,000). In FY 09-10, the T.O. was further reduced by 6 supervisors (-\$684,000). It is projected that in FY 10-11, an additional 7 supervisory positions will be eliminated, (-\$429,000) resulting in the reduction of 17 supervisors over three fiscal years, (-\$1,845,000).
Cultural Affairs	6	6		
Economic Development & International Trade	3	3		
Elections	27	27	Some supervisory positions have minimal or moderate supervisory responsibility, mainly for seasonal employees; Elections T.O. does not reflect the large number of seasonal employees	

DEPARTMENT	OCA Departmental Supervisory Positions Count	OSBM Departmental Supervisory Positions Count	Comments Previously Provided to OCA	Other Comments
Emergency Management & Homeland Security	4		An additional 16 employees take on supervisory responsibilities (for a large number of volunteers / County employees) during an activation	
Enterprise Technology Services	51	51		
Environmental Resources Management	107	107		
Fair Employment Practices	1	1		
Film and Entertainment	1	1		The Office Director also has significant direct service responsibilities
Finance	67	68		
Fire Rescue	767	767		
General Services Administration	131	131		
Government Information Center	20	20		
Grants Coordination	2	2		
Homeless Trust	4	4		Span of Control request was only sent to the department. OSBM never received the request
Housing Agency			not included in OCA analysis	
Housing Finance Authority	1	1		Span of Control request was only sent to the department. OSBM never received the request
Human Resources	24	24		
Human Services	47	47	Some supervisors also have significant direct service responsibilities	
Inspector General	9	9		
Juvenile Services	21	18	Most supervisors also have a full workload.	
Library	151	151		
Medical Examiner	3	4	Several additional employees are "working supervisors" who evaluate their subordinates but also have a full caseload of work.	
Miami-Dade Economic Advocacy Trust	4	4		Span of Control request was only sent to the department. OSBM never received the request. One employee is currently being housed and supervised in MDT.
Metropolitan Planning Organization	5	6		The initial response was 4 positions, so OCA's information was correct. After further review, it was determined that only 2 positions perform supervisory functions. One of the two employees also performs direct service functions.
Office of Sustainability	4	2		
Park and Recreation & MetroZoo	230	230	Some supervisors oversee one or more facilities with multiple part-time positions under their supervision, but neither part-time nor temporary employees are included in the count of total positions	
Planning and Zoning	38	23		

DEPARTMENT	OCA Departmental Supervisory Positions Count	OSBM Departmental Supervisory Positions Count <sup>1</sup>	Comments Previously Provided to OCA	Other Comments
Police	865	865		Public safety has a considerable level of supervisory responsibility due to the high-liability nature of its work. There are sections within MDPD which perform administrative and quasi-investigative functions that can only be rendered via supervisory classifications (e.g. the Professional Compliance Bureau and Miami-Dade Public Safety Training Institute. Other high-liability assignments require additional supervision due to the risk to officers and the community. Such assignments include, but are not limited to, the Special Response Team (SRT), Tactical Narcotics Team (TNT), and Robbery Intervention Detail (RID). Further, during the formation of the FY 2010-11 proposed budget submission, MDPD performed organizational restructuring that has resulted in the elimination of 17 sworn executive level positions throughout MDPD.
Procurement Management	7	7		
Property Appraisal	44			Span of Control information was requested directly from the Department.
Public Works	123	123		
Seaport	83	83		Total position count excludes part time and seasonal employees
Small Business Development	5	5		
Solid Waste Management	102	102		
Strategic Business Management	3	3		
Transit	108	108		
Vizcaya	22	22		
Water and Sewer	391	391		

<sup>1</sup> Departments and/or OSBM analysts were asked by the OCA to identify employees with supervisory responsibilities. A number is provided if the OSBM analyst has verified the position count. In some cases this verification was only performed after the OCA report was transmitted, since the original information request was sent directly to the department.

## Span of Control - Selected Literature Review Highlights

### Standard Metrics

- Average Span of Control (SOC) = (Total Employees – 1) / Total Supervisors
  - Part - time workers (but not temps) are usually included
  - A supervisor is typically defined as an employee signing another employee's performance appraisal
- Other frequently cited metric is the maximum number of management layers from line employee to chief executive

### Selected Benchmarking Study Highlights

#### *Summary:*

- Recommended Span of Control ranges from 6 to 12 or more, depending on the source
- Actual average Span of Control in state and local government agencies ranges from 5 to 13, with most agencies close to 6-7
- Recommended maximum number of management layers is typically in the 6-7 range

#### *Study Highlights (in reverse chronological order):*

- State of Iowa Scorecard (2007)
  - Average Span of Control is measured on the statewide scorecard
  - Target is 12
  - FY07 actual is 11.01
- Albuquerque Water Utility Study (*Fox Lawson*) (2007)
  - Consultant cited "rule of 7" as a benchmark for SOC and number of management layers
  - Overall average number of direct reports per supervisor for the utility was 6.7, but was closer to 5 at some reporting levels
- *Police Chief Magazine* survey (published October 2006)
  - Survey of 140 police departments of varying size

- Overall average ratio of supervisors to staff was 1:7; maximum was 1:15 for a very large department
- Cited previous research indicating typical ration of supervisors to staff was 1:8.4 for traditional police depts., while ratio was slightly lower for depts. heavily focused on community policing
- City of Seattle Audit (2005)
  - Reviewed 11 large departments
  - Over SOC rose from 5.9 in 1995 to 6.8 in 2005
  - Inclusion of contractual temps significantly impacts SOC for some departments
- State of Texas Span of Control Review (2003)
  - Average statewide SOC was 1:13 (but Corrections skewed data somewhat); 26 agencies had average SOC of between 1:9 and 1:2
  - Discussed importance of restructuring the classification and pay structure so that supervision is not the only path to professional advancement
  - Cited recommended SOC ratio of 1:11 and recommended agencies with more than 100 employees be statutorily required to achieve this metric
  - The state legislature subsequently enacted such legislation and deadline to attain the 1:11 benchmark was to be August 2007; current status is unclear
- City of Kansas City Span of Control Audit (2002)
  - Average dept SOC ranged from 3.2 to 12.8; median was 4.6
  - Maximum management layers from City Manager to front line was 9
  - Auditor recommended department review of instances where supervisor has fewer than 3 or more than 12 direct reports; also recommended depts. review whether vacant supervisory positions could be replaced with line positions and to consider SOC when creating new positions
- City of San Francisco Police Performance Audit (1998)
  - Surveyed 6 of 10 largest California police departments
  - Findings included:
    - The ratio of management personnel (Captain and above) to other sworn staff ranged from 46 to 110
    - Average ratio of Captains to Lieutenants was 4.6
    - Average ratio of Lieutenants to Sergeants was 5.4
    - Average ratio of Sergeants to Officers was 7.5



- City of Portland Span of Control Study (as cited in Kansas City Audit) (1994)
  - Average span of control was 6.5
- Tomasko (in Downsizing) (1990) suggested a “rule of 6” as a probable outer limit for SOC and management layers

<b>Factors Influencing Span of Control</b>
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- Similarity of work activities / degree of task certainty performed by supervised staff
- Time frame of work (the maximum time period during which a subordinate exercises discretion)
- Degree & nature of interdependence of subordinates (pooled v. sequential v. reciprocal efforts)
- Number of performance measures needed to evaluate subordinates
- Extent of non-supervisory activities
- Qualifications / experience / training of supervisor and staff
- Degree of risk entailed in work
- Degree of public scrutiny entailed in work
- Geographic dispersion of staff
- Information technology infrastructure
- Extent of contracting out
- Staff turnover
- Shared organizational culture
- Special circumstances including
  - Multiple work shifts
  - Legal / regulatory issues
  - High level of professional expertise required
- Ability of classification and pay structure to accommodate non-managerial career paths and reward performance of non-supervisory employees