

# **Does Changed Planning Cause Change in Property Value?**

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**Key words:** Real estate development, Spatial planning, Land-use

## **SUMMARY**

The aim of this paper is to present a research question that focuses on the interaction between the developers and local council/municipal planners when urban development takes place. Since, developers need planning to be able to develop, and the local council and municipal planners need the developers to implement their planning, they have to interact with each other. The municipal planning must be in the best interest of the community, taking nature and environmental issues into account and the community's citizens must be given a chance to express their opinion. This means that any increase in value caused by municipal planning is a consequence of planning and not an aim in its self. Developers try to get the most out of any increase in value, because it helps them to create a profit by the development.

The main question is: How does the property value change in urban development areas from the time when the existing use stops and until the area is fully developed as residential area, and is it possible to create a general model describing the key factors (and their weight) in this increase of value? – It will have emphasis on how municipal planning, and thereby new usage options, influences on the value of property.

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## 1. INTRODUCTION

Municipal planning has economical consequences for those areas that are affected by the planning. An example of this is, when a city expands with a new residential area at the edge of the city. The agricultural land, that is to become the new residential area, is appointed as residential area in the municipal plan<sup>1</sup>, which also means that the area, that was in Rural zone<sup>2</sup>, is transferred into Urban zone (see footnote <sup>2</sup>). The transferred area increases in value, partly because of use-opportunities and partly because of the following development of the area.

The above can be illustrated with an example from Elev near Århus in Denmark. The agricultural land is sold for 18 DKR/m<sup>2</sup> (www.aarhuskommune.dk, 1, 17/01-08) in the Rural zone next to Elev. In Elev's Urban zone is a building site for a single family house, just next to the agricultural land, sold for highest bid with of minimum of 750 DKR/m<sup>2</sup> (www.aarhuskommune.dk, 2, 17/01-08). It is clear that something has happened, since the value of the same land has increased so dramatically. We know that to things has happened, firstly that there has been made a local plan<sup>3</sup>, which has appointed the area as residential area, and secondly the area has been prepared for building meaning that roads has been made, property boundaries has been drawn ect. But what has specifically caused the increase in value? This issue is discussed very little in literature that concerns the conditions that apply in Denmark. As shown it is relatively easy to determine that there is an increase in value, but not why it is so. There are some existing models of the development process with economical views (Evans, 2004), (Kalbro, 2007), (De Sousa, 2000) and (Healey, 1991). These models concerns either parts of the development process or aims towards conditions that does not address Danish conditions direct. It is however likely that there will be similarities, and they are therefore taken on as a fundamental basis for this present research.

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<sup>1</sup> The local council makes or revises a municipal plan every 4.th year. It has a 12 year perspective and contains a general structure for development and land use in the municipality. It also contains guidelines for land use and the framework for the content of local plans cf. the Planning Act §11 subsection 2

<sup>2</sup> Denmark is divided into three different zones: urban zones, summer cottage areas and rural zones, cf. the Planning Act §34. Urban zones is for urban uses like residential areas, industry, offices ect.; summer cottage areas are reserved for summer cottages and the rural zone is the rest of the country. In rural zones almost all uses other than agricultural and fishing uses requires a permit from the planning authorities, which is the local council.

<sup>3</sup> A local plan is a plan that is legally binding. Is consists of a description part and a regulation part that outline how the local plan area can be use and what can be build. For example it can contain regulation on floor space ratio and where roads should be build.

## PLANNING AND PROPERTY VALUE

It is a general assumption that areas which are used for residential purposes have a higher value than for example areas used for industrial purposes. This general assumption was the initiating problem for my master thesis<sup>4</sup>. In my master thesis we analyzed the use<sup>5</sup> and floor space ratio<sup>6</sup> (determinate in the municipal plan) in relation to the land value and concluded that there is a correlation between the possibilities given in planning and the land value. The investigation is based on a snapshot, in 2003, of the municipal planning and the estimated land value, from the Danish property valuation<sup>7</sup> that is used for tax purposes. The conclusion was as follows:

- The allowed use influences on the land value. Different uses, for example residential and business/industry, have different land values. In general residential, mixed use and centre are the most valuable.
- The allowed floor space ratio influences on the land value. If you are allowed to build more, the land will be worth more.
- The distance to the city centre influences on the land value. Land is worth more in the centre of a city than at the edge of the city.
- The size of influence of allowed use and allowed floor space ratio depends on the distance to the city centre. The land values are higher near the city centre and so are the difference between the land values, that follows by difference in allowed use and floor space ratio (Nielsen, Christensen and Pedersen 2005)

Figure 1, illustrates the first point, and shows that areas with the use Residential, Mixed use, Business/Industry, Centre and Others have different values according to the allowed use. The shown values are in DKR/m<sup>2</sup> and applies for a specific part of Aalborg city in Denmark.

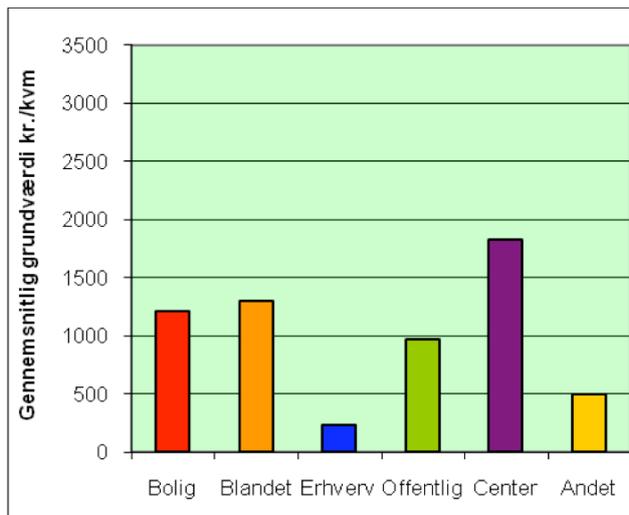
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<sup>4</sup> "The municipal plan's influence on the property market – is the land's market value effected?" (Nielsen, Christensen and Pedersen 2005)

<sup>5</sup> In the master thesis use in urban zone was defined as Residential, Mixed use, business/industry, centre and others. In rural zone the use will typically be agricultural use. In this project the term use may be used in a broader sense and with a more suitable sub classification.

<sup>6</sup> Floor space ratio describes how much it is allowed to build. If a property is 1000 m<sup>2</sup> and the floor space ratio is 25%, then it is allowed to build 250 m<sup>2</sup>.

<sup>7</sup> The Danish property valuation is based on a general statistical model. As mentioned the valuation is used by the tax authorities, which need an estimated value for property and land in order to tax the owners. All properties are valued every second year. The model's accuracy is a balancing of the valuations cost and the gained accuracy. Therefore it consists of as few factors as possible that can provide a reasonable result. It aims towards market value, but is an estimate value.



**Figure 1** diagram that shows the average estimated land values in a specific area in Aalborg city. The area is the part of Aalborg that lies around the city centre south of “Limfjorden”. The area consists of blocks with smaller shop in street level and residential use above. Large parts of the city’s old harbour areas are also in this area. The values are shown for each of the uses Residential (bolig), Mixed use (blandet), Business/Industry (erhverv), Centre (center) and Others (andet). (Nielsen, Christensen and Pedersen 2005, p. 50)

We know that agricultural areas which are changed into residential areas and therefore developed increase in value, and we know that different uses and different floor space ratios within the city limits have different land values. It would be interesting to examine if a change in allowed use within the city also means a change in value. Knowing that there is this difference between the values of different uses it seems likely that a change in use and floor space ratio would cause a change in the value – but is it so? Or does the increase in value for example occur when the site is being built.

## 2. URBAN DEVELOPMENT

Bigger changes in planning occur both at the city edge and within the city. Areas at the city edge (Green fields) have most often been used to agricultural purposes until the development for urban uses. Areas within the city are urban redevelopment areas (Brown fields). Urban redevelopment areas are, as the name implies, cf. the Planning Act §11b subsection 1 pt.5 defined as an area in which the use of buildings and undeveloped land used for business purposes, harbour purposes or similar activities is to be changed to residential purposes, public institutional purposes, urban centre purposes, recreational purposes or business purposes that are compatible with using the land for residential purposes. Mutual for both cases is the development for urban uses, here referred to as urban development in either Green fields or Brown fields. There is a third planning/development situation called urban renewal. Urban renewal primarily concerns old residential areas, where the buildings need to be improved and backyards opened up. Planning in those areas does not usually give any new use-possibilities, it mainly aims towards bringing the area’s dwellings and surroundings up to the standards that applies today. Since focus are on areas where planning is changed or made

for the first time and thereby gives an area new use-possibilities urban renewal is not discussed further.

As mentioned an urban development area will always have an existing use when the development starts. If the development is to have any purpose the area will also have a use when it is developed, for instance residential use. This means that an urban development area will have one use (“Old use”) when the development starts and a use (“New use”), most often another, when it has been developed.



**Figure 2** shows the two fixed points in the urban development process – the previous “Old use” and the future “New use”.

The “Old use” consists of either Green fields, meaning agricultural use, or Brown fields, which is business/industry and harbour uses. There are more possibilities when it comes to “New use”. The uses shown in figure 1 is one definition of urban uses (Residential, Mixed use, business/industry, centre and others), and other definitions could be as relevant as this. But it shows that “New use” can be many things. In Brown fields it is expected cf. the Planning Act §11b subsection 1 pt.5 that the “New use” is residential or uses that can exist side by side with residential use. In Green fields all possibilities are open. Uses related to business, industry and retail trade are influenced by for example environmental rules or special retail trade planning rules and are sensitive to for example competition and national economy. Residential use is more “straight forward”, mainly because the need and demand for dwellings is relatively constant, which causes a more stable market situation and a market that is not in the same way influenced by competition as the market for retail trade and businesses.

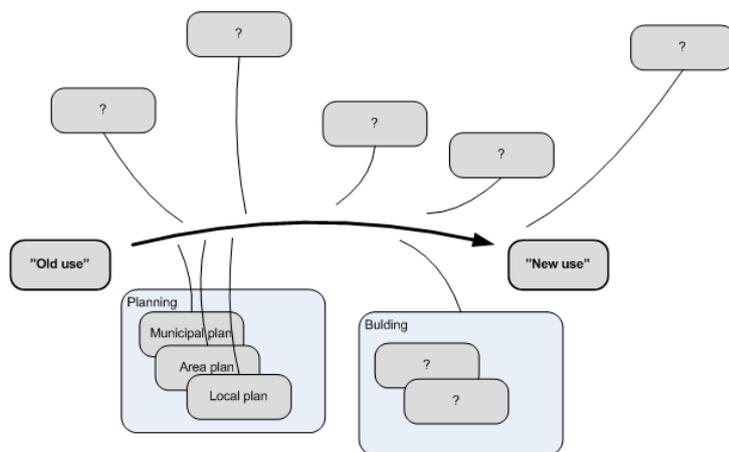
### 3. INFLUENCING FACTORS

There are many factors that effects urban development, and they can be difficult to determine, and they can be different from area to area due to the areas use, physical possibilities, the group of people that is developing the area ect. Some factors will however almost always occur and some of those are identified below.

Municipal planning will always be a part of urban development because the local council cf. the Planning Act § 11a subsection 1 pt. 2 in its municipal plan must locate the location of areas designated for urban uses. Furthermore the local council has a local plan obligation because *”A local plan shall be produced before large areas are parcelled out and before major development projects, including demolition, are carried out, and also when it is necessary to ensure the implementation of the municipal plan”* (the Planning Act § 13 subsection 2). Urban development causes major development projects and therefore the local council will be obligated to make a local plan. Beside this the local council is free to make area plans, debate plans and other plans that show the local councils intentions with an area,

whenever it is necessary. As illustrated above the expectation is that changed use-possibilities given by planning causes an increase in value, but the purpose of planning is according to the Planning Act § 1 to ensure “..the interests of society with respect to land use and contributes to protecting the country’s nature and environment, so that sustainable development of society with respect for people’s living conditions and for the conservation of wildlife and vegetation is secured”. This means that any increase in value caused by municipal planning is a consequence of planning and not an aim in its self.

Planning does always occur in urban development and so do building. Unless the existing buildings immediately can be used, the existing buildings must be demolished and new buildings must be built. The local council has to give a building permit if new buildings are to be built. Buildings, which are in accordance with the areas new use, will induce an increased value of the property on which they are built. The question is, if the value of the new buildings exceeds the building costs.



**Figure 3** shows the urban development process with the anchor points “Old use” and “New use” and the known and unknown factors that influence the property value.

There can be, and with all reason should be, other factors than those earlier mentioned. It could be factors like polluted soil, local politics and EU-investmentsfunds. Even the known factors like planning and building can be hard to isolate and place at a certain spot in a model. In some case planning may be late in the process and in some case more than one time. The same applies for building that can be divided into stages. To analyze if municipal planning causes an increase in property value, and in what degree, it is necessary to look into the whole process and to see what else has an influence on the property value.

#### 4. PERSPECTIVE

As there are different factors, and difference in those from area to area, there are different people involved in urban development. There are developers, investors, owners, local councils, neighbours ect. and they all have different points of view on urban development, and especially the area which is being developed. This also means that their views on value can be

different. Neighbours may think of the use value<sup>8</sup> of their property and the areas amenity value<sup>9</sup> while the developer thinks of value as the profit which the development can be sold for, when it is developed. To choose which value, that shows potential increase in value, it is necessary to choose a specific group of players view.

It is a common assumption that developers, investors and owners in practice develop urban development areas. In some extend the local council is involved, for example to develop common areas but also to build for own purposes. In the last case the local council will take the role of investor or owner. Mutual for those, who typically develop urban development areas, are an economic encouragement and expectation of economical profit. The exception is those who develop with expectation of use value for either themselves or the community, for example a company who owns a property and is in need of a new domicile. It is chosen to take the developer's and investor's points of view, which means that the economical value is in focus.

We know that there is both an "Old use" and a "New use" which both have a value that can be determined in DKR. In the developer's and investor's perspective the value of "New use" is expected to be larger than the value of "Old use", and the difference will be the increase in value. In principle, and in some cases also in practice, the value of "New use" can be smaller than the value of "Old use", and in some cases this gap is equalled by different kinds of public funds. The amount of increased value is very depended on which factors that influences on the urban development. If the developer and investor are to make a profit, the increased value must exceed the costs to change the urban development area from "Old use" to "New use". If the developer and investor are to engage in an urban development project, there must be a profit at the end, and if this is not possible they will develop somewhere else. This is the local council's dilemma in relation to getting their planning and politics implemented in urban development areas and to get them developed from "Old use" to "New use". The local council's intentions with an area can be in the best interest of all, but it does not help if no one will develop the area. Taken into consideration that a possible economical profit is a precondition for implementing the municipal planning it is peculiar that the economic consequences of planning doesn't have more weight than it seems to have.

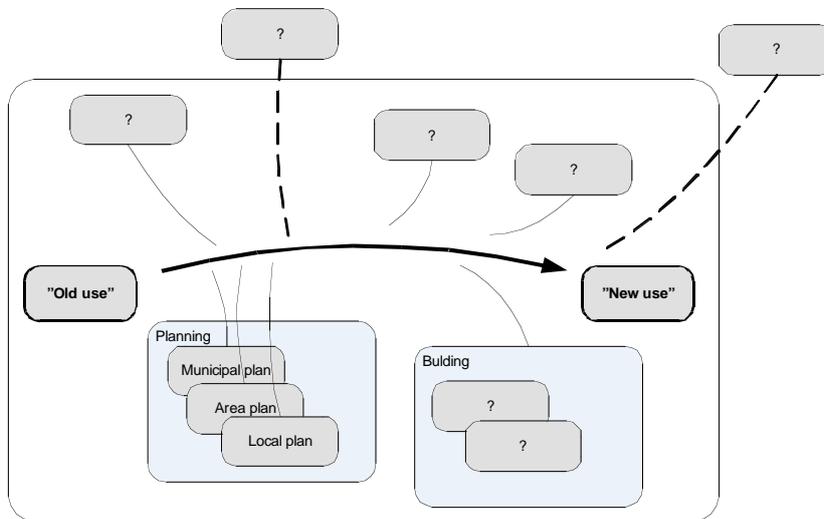
The value that is interesting is the increase in value that presumably takes place when the urban development area is changed from its "Old use" to its "New use". When developers and investors react as they do, this value is essential if an area is to be developed. The local council must in its municipal and local planning take into account that the expected increase in value should be large enough for the developer and investor to make a profit.

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<sup>8</sup> Use value must be seen in relation to one who has a need. If a person lives at a place without public transportation then a car or a bicycle will have a big use value, because he cannot get to work without one of those. This does not necessarily make the car or bicycle expensive, but they would be worth more to him than to most people.

<sup>9</sup> amenity value is a very soft term that, sums up things like sea view, clean air, nature surroundings ect.

When it is the increase in value, that occur when the urban development area is changed from its “Old use” to its “New use”, that is chosen, there are some factors that are more relevant than others. Those factors which are not relevant are illustrated in the figure 4 as those with a dotted line.



**Figure 4** shows the urban development process with the anchor points “Old use” and “New use” and the known and unknown factors that influence the property value. The dotted line and the box around part of the figure illustrates that there are factors which are not relevant.

When an urban development project is capitalised at the end of the development, the seller will try to get as high a price as possible and the buyer will try to buy it as cheap as possible, just as the rest of the property marked works. This means that if an urban development project is sold it will in principle be at the market price. If the project is sold at an earlier stage, the price agreed on, will be the expected market price estimated on the basis of the information known at the time of sale. If the investor keeps the property, focus will be on rent and how big it should be in order to cover running expenses and over time development costs.

An urban development area consists of either a part of, one or more cadastral properties<sup>10</sup>. It is the property which values change during the urban development process and it is the property that is sold at the end of the development if the investors do not keep the properties. Along the development process the property structure can change. Cadastral properties can be amalgamated, divided or restructured, but at cadastral property can also be divided into owner-occupied flats<sup>11</sup> or housing co-operative dwelling<sup>12</sup>. A change in property structure can also cause an increase in the total property value.

<sup>10</sup> A cadastral property means: one cadastral number, or several cadastral numbers which, in accordance with the registration in the cadastre, shall be kept as one unit cf. The Act Governing Parcelling out

<sup>11</sup> A cadastral property can, if the building is suitable for it, be divided into owner-occupied flats that in themselves are individual properties. If a cadastral property has a building with 8 apartments and is suitable for it, it can be divided into 8 owner-occupied flats.

## 5. RESEARCH QUESTION

Larger changes in planning occur in urban development areas which can be at both Green fields (the city edge) and Brown fields (within the city). Areas will always have been used for something before, if not urban uses then agricultural uses, and will therefore have an “Old use” and a “New use”. Planning is only a part of the whole process of changing the development area from “Old use” to “New use”. A process which is different from area to area.

It is clear that there are several different uses and there are most likely several different factors and it seems that factors and their influences can be different depending on the areas “Old use” and “New use”. To simplify things it is an apparent option to choose a specific type of development situations. It could be development for a specific “New use” or a group of uses or for that matter a specific “Old use”. By choosing a subset of the whole it is more likely that it will be possible to generalise the result of this project. It is chosen to focus on residential use as “New use”, because it is, in this context, the simplest use and in practice the most common use.

Developers, investors or owners who typically develop an urban development area have either an economical interest in the area or a personal need to cover, for example a need of a new domicile for a company. It is chosen to take the developer’s and investor’s point of view, who have an interest in making a profit by developing, and who has focus on the areas’ increase in value. A value that in sale-situations is market price.

If planning causes an increase in value, then it is only one of several possible factors that are part of the whole development process. Because of this it is necessary to look into the whole process, and which factors influences the value of property in urban development areas.

On the basis of the above following research question is defined:

- How does the property value change in urban development areas from the time when the existing use stops and until the area is fully developed as residential area, and is it possible to create a general model describing the key factors (and their weight) in this increase of value? – It will have emphasis on how municipal planning, and thereby new usage options, influences on the value of property.

Knowledge on how developers think and act in urban development could be beneficial for both municipal planers and the developers, especially because developers in general are a necessity for the municipal planning to be implemented. If the municipal planners know when they plan something, what developers can profit on, they can take this into account when they plan, and that would be beneficial for all. Since, developers need planning to be able to develop, and the local council and municipal planners need the developers to implement their planning, the developers and local council/municipal planners have to interact with each

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<sup>12</sup> A housing co-operative can consist of one or more cadastral properties. If one wishes to live in a housing co-operative dwelling you buy a share in the co-operative and then you the dwellings monthly share of common expenses. You don’t own the dwelling but a share in the housing co-operative.

other. And both parties could benefit from knowing more about this interaction. When the local council and their municipal planners do their planning they must make plans that is in the best interest of the community, take nature and environmental issues into account and they are obligated to include the communities citizens in their planning, but those who actually implement their planning – developers, investors and owners – are not formally a part of the target group when planning takes place. It is well known that a big part of the local plans that are made are initiated by developers, investors and owners. In those situations there are a direct interaction between developers, investors and owners on one side and the local council and their municipal planners on the other. This interaction would be easier if the developer etc. and especially the local council that have other interests to handle as well, had a bigger understanding of how developers act. This research question and following research aims to clarify how property value change and how developers think when Green fields and Brown fields are developed into residential uses, with the purpose to contribute to the understanding of the interaction between developers, investors and owners on one side and the local council and their municipal planners on the other.

As illustrated a general model will include different factors, among other planning and investments in buildings. To try and draw up a general model, it must be analyzed, which factor a general model should consist of. Since developers and investors are in focus it is mainly their point of views that determine if a factor is relevant or not. It is also necessary to analyze with which weight the individual factor is a part of the model, because they do not necessarily have the same weight. Because there will be emphasis on how municipal planning as a factor affects the urban development it is important to give this attention in the following work. As mentioned, those who develop urban development areas are in most cases interested in economical profit, and therefore especially those are in focus in this project. If their expectations of profit are not meet, they will develop somewhere else, which also means that some areas presumably are not developed. In relation to try to create a general model for the increase of value it is therefore relevant to find out what expectations of profit developers and investors have, and what their threshold value is. There are two main groups of “Old use” – Green fields and Brown fields, and it is also relevant to look into the difference of those in relation to which factors that influences. This sum up to following sub questions:

- Which factors a general model consist of?
- With which weight the individual factor is a part of the model?
- With which weight municipal planning is a part of the model?
- What expectations of profit do developers and investors have, and what is their threshold value?
- Are there differences in which factors influences Green fields and Brown fields and which?

## REFERENCES

(De Sousa, C. 2000)

De Sousa, C. 2000, "Brownfield redevelopment versus greenfield development: A private sector perspective on the costs and risk associated with brownfield redevelopment in the greater toronto area", *Journal of environmental planning and management*, vol. 43, no. 6, pp. 831.

(Evans, A.W. 2004)

Evans, A.W. 2004, *Economics Real Estate & the Supply of Land*, 1st edn, Blackwell Publishing Ltd, Oxford, UK.

(Healy, P. 1991)

Healy, P. 1991, "Models of the development process: a review", *Journal of property research*, vol 8 no. 3, p 219-238

(Kalbro, T. 2007)

Kalbro, T. 2007, *Markexploatering*, 3. Edn, Norstedts Juridik, Stockholm, Sweden

(Nielsen, Christensen and Pedersen 2005)

Anne Møller Nielsen, Finn Kjær Christensen and Mette Bach Pedersen, 2005, "Kommuneplanens påvirkning af ejendomsmarkedet – påvirkes grundens markedsværdi?", (The municipal plan's influence on the property market – is the land's market value effected?), Master thesis at Aalborg University

(The Act Governing Parcelling out)

The Act Governing Parcelling out and other Registrations in the Cadastre Consolidated, Act no. 137 of March 7, 1990

(The Planning Act)

The Planning Act, Act no. 813 of 21 June 2007

([www.aarhuskommune.dk](http://www.aarhuskommune.dk), 1, 17/01-08)  
[http://www.aarhuskommune.dk/view/forside/view\\_col1\\_forsideliste?\\_page=nyhed/4658339](http://www.aarhuskommune.dk/view/forside/view_col1_forsideliste?_page=nyhed/4658339),  
17/01-08

([www.aarhuskommune.dk](http://www.aarhuskommune.dk), 2, 17/01-08)  
[http://www.aarhuskommune.dk/view/organisation/nyhedsarkiv/nyheder\\_fra\\_2007/diverse\\_ser\\_vicemed-delelser/view\\_col2\\_diverse\\_servicemeddelelser\\_2007?\\_page=nyhed/3667067](http://www.aarhuskommune.dk/view/organisation/nyhedsarkiv/nyheder_fra_2007/diverse_ser_vicemed-delelser/view_col2_diverse_servicemeddelelser_2007?_page=nyhed/3667067),  
17/010-8

## **BIOGRAPHICAL NOTES**

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